

(Nos. 137-283)

1923—NO. 2

FEBRUARY 28TH, 1923

American Society of Civil Engineers,

33 WEST THIRTY-NINTH STREET

NEW YORK CITY

**PRELIMINARY NOTICE
OF
APPLICATIONS
FOR
ADMISSION AND FOR TRANSFER**

The Constitution provides that the Board of Direction shall elect or reject all applicants for ADMISSION or for TRANSFER, and, in order to determine justly the eligibility of each candidate, the Board must depend largely upon the Membership for information.

This list is issued to members in every grade for the purpose of securing all such available information, and every member is urged to scan carefully each monthly list of candidates and to furnish the Board with data in regard to any applicant which may aid in determining his eligibility.

It is the DUTY of all MEMBERS to the PROFESSION to assist the Board in this manner.

It is especially urged, in communications concerning applicants, that errors in the record be pointed out and a DEFINITE RECOMMENDATION AS TO THE PROPER GRADING IN EACH CASE be given, inasmuch as the grading must be based upon the opinions of those who know the applicant personally, as well as upon the nature and extent of his professional experience.

If facts exist derogatory to the personal character or to the professional reputation of an applicant, they should be promptly communicated to the Board.

COMMUNICATIONS RELATING TO APPLICANTS ARE CONSIDERED BY THE BOARD AS STRICTLY CONFIDENTIAL.

The Board of Direction will not consider the applications herein contained from residents of North America until the expiration of thirty (30) days, and from Non-Residents of North America until the expiration of ninety (90) days from the date of this list.

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FOR ADMISSION

ACEVEDO, ARTURO—FF. CC. del Estado, Peru 672, Buenos Aires, Argentine Republic—
(Age 31. Born Buenos Aires, Argentine Republic.) (National Surveyor, 1911, and C. E., 137 1916, Univ. of Buenos Aires.)—1911 to 1916 (5 years) National Surveyor on land and topographic surveys (private work), including geodetic determinations of towns: 1916 to (1) 1918 (2½ years) Engr., Asst. to Chf. Engr., on track and structures, bridge design and operation, 1918 to 1919 (over 7 months) Chf. of M. of W., and 1919 to date (nearly 3½ years) Chf. Engr., of Ferrocarriles del Estado (operates entire system in Argentine Republic, 6 212 km. of track); from Jan. to Sept. 1920 Acting Gen. Mgr. of these lines; as Chf. Engr. is in full charge of these lines under construction, Salta to the Chilean frontier (485 km., 4 482 m. over sea level), Embarcacion to Yacuiba (140 km.), Catamarca to Tucuman (100 km.), San Antonio to Lake Nahuel Huapi (167 km.), and other branches (total length 3 174 km.): 1921 to date also Asst. Prof. of Rys. for 6th year students of Faculty of Exact, Physical and Natural Sciences, Univ. of Buenos Aires. (Active practice 11.5 years: Res. Ch. 10.2: Design 1.3). Refers to F. Foster, W. L. Lowe-Brown, F. Reeves. (Applies in accordance with Sec. 1, Art. I of the By-Laws.)

ADAMS, COMFORT AVERY—Pierce Hall, Cambridge, Mass.—(Age 54. Born Cleveland, Ohio.) (S. B. in Mech. and Elec. Eng., 1890, and E. E., 1905, Case School of Applied Sci.)—1886 to 1890 (4 years) Asst. in Physics, Case School of Applied Science: July to Sept. 1890 surveying in Muir Glacier Dist., Alaska, private scientific expedition under (2) Prof. H. F. Reid: Sept. 1890 to Jan. 1891 Engr., Brown Hoisting & Conveying Machine Co., Cleveland, on design of cantilever crane for shipbuilding: Jan. to Sept. 1891 design and specifications for new office buildings, reorganization of Arc Lamp Carbon Dept., design of electrical machinery, Brush Elec. Co., Cleveland, Ohio: 1891 to 1896 Instructor in, 1896 to 1906 Asst. Prof. of, and 1906 to 1915 Prof. of, Elec. Eng., and 1915 to date Prof. of Eng., Harvard Univ.: also Chairman of Eng. Div. (Oct. 1919 to Oct. 1921) and of Traction Resistance of Roads Comm. (1921 to 1922) of National Research Council, and of Gen. Eng. Comm. of Council of National Defense and Welding Comm. of Emergency Fleet Corporation: since 1904 also Cons. Engr., American Tool & Machine Co., Boston (17 years), The Okonite Co. (10 years), Warner Sugar Refining Co., American Sugar Refining Co., National Cable & Conduit Co., Stone & Webster, Boston Edison Co., Public Service Elec. Co. of New Jersey, etc. (10 years). (Active practice 36.3 years: Res. Ch. 31.7: Design 18). Refers to J. V. Davies, C. Herschel, H. J. Hughes, A. C. Humphries, L. J. Johnson, G. F. Swain, G. S. Webster.

ADAMS, WILLIAM NEIL—711 Hodge Ave., Ames, Iowa—(Age 36. Born Cambridge, Iowa.) (B. S. in C. E., 1913, and C. E., 1919, Iowa State Coll.)—June 1913 to Sept. 1919 with 139 Iowa Highway Comm., until June 1917 as Draftsman on concrete highway bridges (slab, deck and through girders, arches and cantilevers); then Designer on all types of (7) concrete and steel highway bridges, checking shop drawings and County Engr.'s plans: Oct. 1919 to March 1920 Acting Associate Prof., Structural Eng., Iowa State Coll.: March 1920 to date Chf. Bridge Designer, in charge of drafting room of Bridge Dept., Iowa Highway Comm., all types of steel and concrete highway bridges; also standard designs, checking of shop drawings and County Engr.'s plans. (Active practice 9.5 years: Res. Ch. 3.3: Design 3.2). Refers to J. H. Ames, R. A. Caughey, C. C. Coykendall, A. Marston, W. H. Root.

FOR ADMISSION

ADDISON, ELMER GRANT—550 East Washington Lane, Germantown, Pa.—(Age 33. Born Boston, Mass.)—1907 to 1910 (3½ years) Detailer, structural steel and ornamental iron, 140 G. W. & F. Smith Iron Works, Roxbury, Mass.: 1910 to 1911 (over 9 months) Detailer, structural steel, New England Structural Co., Everett, Mass.: 1911 to 1917 with Stone & Webster, Inc., as follows: 1911 to 1912 (1 year) at Boston, Mass., as Draftsman, structural steel and reinforced concrete; 1912 to 1913 (nearly 1½ years) at Keokuk, Iowa, as Draftsman and Designer, structural and reinforced concrete, main power station and substations of hydro-electric project, Mississippi River Power Co.; 1913 to 1916 (3 years) at Cambridge, Mass., as Designer and Squad Chf., structural steel and reinforced concrete, boiler house, President's house, Walker Memorial and other buildings in Massachusetts Inst. of Technology group; 1916 to 1917 (over 9 months) at Boston as Designer and Asst. Squad Chf., structural steel, various power stations and industrial buildings; 1917 (over 7 months) with Westcott & Mapes, Inc., New Haven, Conn., as Structural Engr., power stations for United Elec. Ill. Co., forge shop and other buildings for Lake Torpedo Boat Co.: 1917 to date with Stone & Webster, Inc., 2½ years as Squad Chf. and Asst. Engr., reinforced concrete, various power stations and industrial buildings; 2½ years at Boston, as Jun. Engr., Structural Div., acting as Asst. to Engr. in charge of various power stations and industrial buildings; nearly 1 year at Philadelphia, Pa., as Engr., Structural Div., in charge of branch office on preparation of detail structural plans for large power station. (Active practice 16.2 years: Res. Ch. 8.1: Design 3.1). Refers to A. J. Boase, W. W. Clifford, P. Junkersfeld, C. E. Nichols, W. N. Patten, L. J. Towne.

AMREICH, LOUIS SAUL—103 Stockholm St., Brooklyn, N. Y.—(Age 21. Born Tarnopol, Austria) (C. E., Cornell Univ., 1922)—Sept. to Oct. 1922 Rodman, Grade B, Board of 141 Estimate and Apportionment, New York City, Office of Chf. Engr., Tunnel Div., on proposed Brooklyn-Staten Island Tunnel; acted as Rodman on traverse surveys, etc. (1) (Active practice 0.2 year). Refers to F. A. Barnes, C. Crandall, H. N. Ogden, J. E. Perry, F. J. Seery.

BABCOCK, THEODORE STODDARD—Pelham, N. Y.—(Age 35. Born Pelham Manor, N. Y.) (C. E., Columbia Univ., 1910.)—June to Oct. 1910 Asst. Engr., City of New 142 Rochelle, in charge of survey party on sewer work: Oct. 1910 to March 1911 Inspector for Town of Pelham on construction of reinforced sewage-disposal plant: March 1911 (1) to Jan. 1913 Inspector, road and sidewalk work, preliminary survey work, Transitman, Asst. Engr., New York Board of Water Supply; Saleslearner, Pennsylvania Steel Co.: Jan. 1913 to April 1916 with John Lowry, Jr., Bldr., New York City, as Supt. in full charge of erection of buildings, and Estimator: April 1916 to Oct. 1919 (except 2 years with U. S. Army) Sales Engr. and Mgr., Geo. Sykes Co., Bldg. Contrs., had charge of estimating and construction: May 1917 to June 1919 1st Lieut. and Capt. of Engrs., U. S. Army, after June 1918 in command of Co. E, 303d Engrs., 78th Div.; company built temporary bridges and repaired roads: Oct. 1919 to Oct. 1921 Estimator, Turner Constr. Co., making up estimates and preliminary designs: Oct. 1921 to Feb. 1922 Engr. with Moran, Maurice & Proctor, New York City, on sinking of caissons for Federal Reserve Bank: Feb. 1922 to date Estimator, Geo. Dosé Eng. Co., New York City, has complete charge of making up all estimates. (Active practice 12.5 years: Res. Ch. 8.4: Design 0.5). Refers to H. N. Babcock, A. J. Barzaghi, R. A. Greenfield, T. C. Morgan, L. W. Weed.

BANNERMAN, ROBERT LEE—Tallahassee, Fla.—(Age 29. Born Tallahassee, Fla.) (B. S. in C. E., Ga. School Tech., 1915.)—June 1915 to Jan. 1916 Rodman, and Jan. to June 143 1916 Instrumentman, plotting and computing cross-sections and preparing estimates, State of Florida: June 1916 to May 1918 Asst. to Chf. Drainage Engr., Everglades Drain-(10)age Dist. of Florida, on design of locks and dams and supervision of office during absence of Chf. while on inspection trips (about one half of time): May 1918 to March 1919 Private to Lieut., Engrs., U. S. Army, triangulation work on New Jersey Coast, in charge of three parties: March 1919 to May 1920 Asst. Engr., Everglades Drainage Dist. of Florida, surveys and plans for Palm Beach Drainage and Highway Dist.: since May 1920 with State Road Dept. of Florida, until July 1922 as Res. Engr. in charge of construction of three Federal Aid projects; and since then Div. Engr. in charge of surveys, construction and maintenance in First Div. (West Florida). (Active practice 7.7 years: Res. Ch. 6.4: Design 2). Refers to T. P. Branch, W. S. Earle, H. J. Morrison, J. A. Mortland, J. R. Slade, C. D. Snead.

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BARTHOLET, CHARLES JOSEPH—315 East 10th St., Olympia, Wash.—(Age 38. Born Yakima, Wash.)—Aug. to Dec. 1902 Chainman, Cascade Canal Co., Ellensburg, Wash.: 144 Jan. to May 1903 Rodman and Levelman, Gardena Irrigation Project, Walla Walla, Wash.: June 1903 to Aug. 1904 Instrumentman and 6 months in charge of location and (12) construction, Cascade Canal Co.: Aug. 1904 to April 1905 Rodman and Instrumentman for engineers in private practice, irrigation work and land surveying, Ellensburg: May to Aug. 1905 Levelman, State highway location, Washington State Highway Dept.: Aug. 1905 to May 1906 Transitman, irrigation project, Lewiston-Waha Land & Irrigation Co., Lewiston, Idaho: May 1906 to June 1909 Res. Engr., Chicago, Milwaukee & St. Paul Ry., in charge of heavy mountain main line construction between Cle Elum and Ellensburg: Aug. 1909 to Sept. 1913 with Klckitat Valley Development Co. (Land Dept. of Northern Pacific Ry.), in charge of field parties making surveys for power projects in Cascade Mts. (2 years) and surveys of Benton Irrigation Project (125 000 acres) and Yakima Highline (now Roza Project) (200 000 acres) (2 years); work included planning of distribution system for projects and designing of canals, flumes, pipe-lines and bridges for conveyance of large quantities of water: Feb. to Sept. 1914 Res. Engr., mountain highway location and construction, Washington State Highway Dept.: Sept. 1914 to April 1916 with Public Service Comm., State of Washington, in charge of grade crossing elimination work, consisting of reporting conditions of railroad crossings in the state and offering plans for improvement of dangerous crossings; in some cases work required designing of grade crossing separation: April 1916 to Aug. 1917 Res. Engr., Washington State Highway Dept.: Aug. 1917 to date Asst. State Hydr. Engr. (Active practice 19.8 years: Res. Ch. 13: Design 5.7). Refers to J. Allen, M. Chase, E. R. Hoffman, D. F. McCurrach, J. C. Ralston, A. J. Turner.

BASS, CLARK NEIL—327 Seventh Ave., North, Nashville, Tenn.—(Age 28. Born Grant, Tenn.) (B. S. in Civ. Eng., Univ. of Tenn., 1919.)—June to Sept. 1917 tile drainage 145 and terracing of land in Wilson and Davidson Counties, Tenn.: Dec. 1917 to May 1919 Orientation Officer, 114th Field Artillery, U. S. Army, 1st Lieut.; instruction of (10) non-commissioned officers in orientation, radio and general map work; later general orientation work: July to Nov. 1919 Instrumentman on surveys and construction, Nov. 1919 to May 1920 Jun. Engr. in charge of construction and plans, May 1920 to June 1921 Office Engr. in office of Chf. Engr., and since June 1921 Asst. Chf. Engr., Tennessee Dept. of Highways. (Active practice 5.2 years: Res. Ch. 2.1: Design 3.2). Refers to N. W. Dougherty, A. J. Dyer, B. H. Klyce, D. Q. McComb, H. McDonald, C. H. Olmstead, C. B. Wilson.

BJERREGAARD, JAMES AUGUST—230 W. Cortland St., Jackson, Mich.—(Age 29. Born Ivanhoe, Va.) (B. S. in C. E., 1916, and C. E., 1922, Case School of Applied Sci.)—146 May 1916 to Feb. 1917 Asst. on Eng. Corps, Pennsylvania Lines, C. and P. Div., Cleveland, Ohio, 3 months as Rodman and 6 months in charge of party on realignment, (7) grading and new construction: March to Oct. 1917 Asst. Engr. on hydro-electric development, Fargo Eng. Co., Jackson, Mich., in charge of concrete inspection: Nov. 1917 to Feb. 1919 Capt., Corps of Engrs., U. S. Army (Provisional 1st Lieut. and temporary Capt.), 3 months in Training Camp: March to Aug. 1919 Asst. Engr. in office, Fargo Eng. Co., on drafting, concrete and steel design and estimating: Sept. 1919 to June 1922 Constr. Engr., Bangor Ry. & Elec. Co., Bangor, Maine, in charge of reconstruction of hydro-electric station as Engr. and Supt. of Constr., in charge of design of miscellaneous structures, including storage dam: July 1922 to date with Fargo Eng. Co., designing hydraulic structures, and 2 months in field as Res. Engr. (Active practice 6.5 years: Res. Ch. 4: Design 0.8). Refers to J. S. Bowman, R. G. England, W. G. Fargo, H. S. Hunt, E. Maerker.

BLACKIE, EDWIN EARL—110 North K St., Madera, Cal.—(Age 28. Born Westbrook, Me.) (B. S. in Civ. Eng., Univ. of Cal., 1917.)—May 1917 to May 1918 Draftsman, Designer 147 and Office Engr., Anderson-Cottonwood Irrigation Dist., in charge of designing, estimating, office routine, etc.: May to Dec. 1918 Private and 2d Lieut., U. S. Army: Jan. (13) to March 1919 Res. Engr., Anderson-Cottonwood Irrigation Dist., making estimate of cost of completing system: March to Nov. 1919 Res. Engr., American Seedless Raisin Co., in charge of making, locating and installing about 7 miles of concrete pipe: Nov. to Dec. 1919 Asst. Engr. with Sydney W. Taylor, Jr., on investigation of industrial plant and valuation of 24 miles of railroad: Jan. to June 1920 Asst. Engr., Corcoran Irrigation Dist., in charge of design and construction of structures: June to July 1920 Draftsman,

FOR ADMISSION

California State Water Comm.: July 1920 to date Office Engr., Madera Irrigation Dist., on preliminary estimate, preparation of technical evidence for law suits and investigations of water supply for proposed San Joaquin River Water Storage Dist. (Active practice 4.9 years: Res. Ch. 4.6: Design 2.6). Refers to H. Barnes, B. A. Etcheverry, L. C. Hill, L. K. Jordan, T. H. Means, H. M. Stafford.

BRADFIELD, JOHN ROSS—16 Cartaret Ave., Chrome, N. J.—(Age 23. Born Morrisburg, Ont., Canada.) (B. Sc. in Civ. Eng., McGill Univ., 1922).—April to Sept. 1916 Rodman, 148 Geodetic Survey of Canada: May to Aug. 1918 Draftsman on St. Lawrence River Deep Waterway and Power Investigation, and May to Aug. 1919 Instrumentman on St.

(1) Lawrence Investigation, Hydro-Elec. Power Comm. of Ontario: May to Sept. 1920 Instrumentman on The Milk and St. Mary River Project, Reclamation Service: May to June 1921 Hydr. Computator on St. Lawrence River Investigation, Hydro-Elec. Power Comm.: June to Sept. 1922 Draftsman on maintenance and construction, Consolidated Gas Co., New York City: Sept. 1922 to date Transitman, White Constr. Co., New York City, on Yankee Baseball Stadium. (Active practice 0.8 year). Refers to W. W. Colpitts, W. H. Coverdale, W. J. Francis, R. DeL. French, H. M. MacKay.

BRINKERHOFF, GLEN ALLAN—110 Monroe St., Brooklyn, N. Y.—(Age 34. Born Brooklyn, N. Y.) (C. E., Brooklyn Pol. Inst., 1911).—Summers 1910 and 1911 Topographical 149 Draftsman, U. S. Engr. Office, New York City: Sept. 1911 to Aug. 1914 with John Peirce Co. on construction of Grand Central Terminal, Steel Inspector, charge of survey party,

(1) designing falsework, Asst. to Supt.: Aug. 1914 to Oct. 1915 with Terry & Tench Co., third-tracking Fulton St. Elev. R. R., Brooklyn, Asst. Supt. and Engr., heavy steelwork, track work, etc.: Oct. 1915 to June 1916 on similar work as Asst. Supt. and Engr., Jobson-Gifford Co., third-tracking Broadway Elev. R. R., Brooklyn: June 1916 to June 1917 Asst. Supt., Westinghouse, Church, Kerr Co., on construction of Dominion Arsenal at Lindsay, Ont.: June 1917 to Jan. 1919 Asst. Supt. and Engr. on design and construction of ways, buildings, etc., Terry Shipbuilding Co., at Savannah, Ga.: Jan. 1919 to March 1920 Asst. Supt. and Engr., Savannah Drydock & Repair Co., on construction of 8 000-ton floating dock, in charge of construction and Dockmaster for 6 months on operation: March 1920 to Dec. 1922 with Terry & Tench Co., until June 1921 as Asst. Supt. and Engr. in construction of six piers at Stapleton, S. I., for New York City; then Engr. in charge of Troy-Cohoes Bridge for New York State. (Active practice 11.1 years: Res. Ch. 7.3: Design 1.2). Refers to H. R. Codwise, F. E. Cudworth, C. A. Curtis, E. Diebitsch, C. W. Hudson, H. D. Robinson.

BROCKWAY, PAUL LEMON—City Engr., Wichita, Kans.—(Age 43. Born Riverton, Nebr.) (B. Sc. in C. E., Univ. of Nebr., 1905).—June 1905 to May 1906 on reinforced concrete 150 construction as member of a contracting firm, built two dams and a reinforced concrete reservoir (total cost approx. \$50 000): May to Dec. 1906 Asst. Engr., Chicago, (15) Rock Island & Pacific Ry., maintenance, masonry construction in connection with bridge renewal: Feb. to Dec. 1907 Field Supt. for railway masonry contractor; bridge renewal on C. R. I. & P. Ry. out of Topeka, Kans., looked after supply of materials, work train service, equipment, etc.: May 1908 to July 1917 Asst. City Engr., Wichita, Kans., design and supervision, pavement, sewers, bridges, surveys, establishing grades and miscellaneous municipal engineering (construction work approx. \$5 000 000): July 1917 to date City Engr., Wichita, responsible charge of all municipal improvements and engineering, including reinforced concrete bridge (\$125 000), 70 miles of pavement and 75 miles of sewers (total approx. \$8 000 000). (Active practice 17 years: Res. Ch. 6.4: Design 4). Refers to F. W. Epps, C. A. Forter, C. A. Haskins, C. R. Mandigo, H. B. Walker, M. W. Watson, B. C. Wells.

BROWN, ERNEST MACK—P. O. Box 253, Princeton, W. Va.—(Age 27. Born Oakvale, W. Va.)—1912 (3 months) with Brown, Holt & Saunders, Wise, Va., assisting engineers 151 on highway work: Jan. 1913 to May 1914 Rodman with D. C. Walker, Princeton, W. Va.: May 1914 to Oct. 1915 Rodman, Levelman, Transitman and Inspector, highway (6) work, Mercer County, W. Va.: Oct. 1915-Jan. 1916 Transitman with M. R. Morrison, city work, at Princeton: Feb.-April 1916 Rodman and Leveler, Virginian R. R. Co.: May 1916-April 1918 Transitman, Res. Engr. and Acting Chf. Engr., Wyoming County, W. Va., highway work: May to July 1918 Party Chf., Thompson Starrett Co., at U. S. Powder Plant C, Nitro, W. Va., water, gas, sewer lines, house buildings and machinery foundations: July to Dec. 1918 Acting Instructor, Army Training School, Richmond, Va., concrete work and highway bridges: Jan. 1919 land surveying in Wyoming

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County (private work) : Feb. to Sept. 1919 Res. Engr., Mingo County, W. Va., on highway work, location and construction and masonry design : Sept. 1919 to Nov. 1921 Chf. Engr. and Gen. Supt., Himler Coal Co., locating and building 3 miles standard-gauge railroad, constructing railroad bridge across river (465 ft.), air shaft (100 ft.) and slope (200 ft.) to mines, steel tipple (300 tons per hour), constructing and installing power plant building (concrete), making layout and opening up mines, constructing camp water system and sewer, property survey, and operating mines 6 months after completion and plant (approx. \$1 000 000) : Jan.-June 1922 city work in Princeton (private work) : July 1922 to date County Road Engr. for Mercer County, in charge of all work, construction and maintenance. (Active practice 9 years: Res. Ch. 4.8: Design 1.6). Refers to E. C. Barton, W. E. Dougher, J. H. Harvell, C. R. Hawley, G. H. Hill, H. J. Spelman.

BRYDEN, EDWARD ALLEN, Jr.—39 Central Ave., Wellsboro, Pa.—(Age 32. Born Wellsboro, Pa.)—Aug. 1911 to Jan. 1913 and April 1913 to Jan. 1914 Rodman and Chainman, Pennsylvania State Highway Dept. : March to Nov. 1914 Rodman, Chicago, Burlington & Quincy R. R., Chicago, Ill. : July 1915 to March 1916 Rodman and Instrumentman, Delaware, (4) Lackawanna & Western R. R., Binghamton, N. Y. : April to Oct. 1916 Asst. on valuation, Peoples Gas Light & Coke Co., Chicago : Oct. 1916 to Dec. 1917 Topographer and Draftsman, Office Engr., Instrumentman and Bridge Inspector, on location and construction, Atchison, Topeka & Santa Fe Ry. : Dec. 1917 to Dec. 1918 Private, Sergeant, 2d Lieut., U. S. Army, Asst. to Constructing Quartermaster, Camp Greene, N. C. : Jan. 1919 to date Draftsman, Chf. of Party, Asst. Engr. and Res. Engr., Pennsylvania State Highway Dept. (Active practice 10 years: Res. Ch. 4). Refers to C. A. Combs, A. E. Farrington, T. C. Frame, S. W. Jackson, J. S. Ritche, P. M. Tebbs.

BUBAR, HUDSON HARRIS—2713 East 26th St., Brooklyn, N. Y.—(Age 45. Born Nashville, Tenn.)—1898 to 1903 (4 years) with U. S. Engr. Corps, in Cuba, Philippine Islands and China, principally on construction of military roads, harbor survey, erection of military barracks and design and erection of bridges: 1903 to 1904 (1 year) on sub-(1) contract for driving 1 800 ft. of single-track tunnel on Denver & Northwest R. R. near Russelville, Colo. (private work) : 1904 to 1905 (1 year) installation and operation of mining and milling equipment, Cripple Creek, Colo. (private work) : 1906 to 1910 (4 years) erection of mill buildings, factories, power houses, etc., in United States and Canada, with McClintock-Marshall Co., American Bridge Co., Westinghouse, Church, Kerr & Co., and Geo. A. Fuller Co. : 1910 to 1914 (4 years) private work contracting in Mexico, principally on erection of power plants, mining and milling buildings and installation and operation of mining and milling equipment: 1914 to 1915 (2 years) in charge of reconstruction work, section of Third Ave. Elevated R. R., from 149th St. to Fordham Road, New York City, Snare & Triest Co. : 1915 to 1916 (6 months) Plant Engr. of erection and operation of Hoffman & Kropff Chemical Co.'s plant at Greenpoint, Brooklyn, N. Y. : 1917 to 1918 (1½ years) Mech. Supt., National Aniline & Chemical Co., Brooklyn : 1918 to April 1919 (1 year) Mech. Supt., Air Nitrates Corporation, in charge of installation of plant and shop equipment foundries, temporary power houses, pumping stations, etc., also of inspection of all operating equipment during construction and maintenance and repair of entire plant during operation: 1919 to 1920 (2 years) Constr. Engr. and later Shops and Standards Engr. in various plants, National Aniline & Chemical Co. : 1920 to 1922 (2½ years) Engr., Mutual Chemical Co. in charge of engineering matters in various plants: Dec. 1922 became Chf. Engr., Mutual Chemical Co. of America. (Active practice 23.5 years: Res. Ch. 22.5: Design 7.5). Refers to O. L. Brodie, G. W. Burpee, J. T. Fetherston, E. L. Rimbault, D. A. Sealey.

BUCHLER, ADOLPH—Caixa Postal 133, Fortaleza, Ceara, Brazil—(Age 35. Born St. Gall, Switzerland.) (C. E., Ecole Polytechnique Fédérale, Zurich, Switzerland, 1911.)—June 1911 to March 1912 with Alb. Buss & Co., Basel, Switzerland, as Res. Engr. on erection of plant and falsework for steel arch bridge (370-ft. span) : March 1912 to Feb. 1913 (1) Designing Engr., reinforced concrete structures, Ed. Zulbin & Co., Strassbourg, France : Feb. 1913 to April 1917 with Aluminium Industrie Gesellschaft, Neuhausen, Switzerland, and J. Buchli, Cons. Engr., Zurich, Switzerland, as Designing Engr., water-power developments; Asst. Supt. in charge of 3d Div. of water-power development on Borgne River (1 200-ft. head) (substructure of penstocks, spillway tunnel, tail race) : July 1917 to Sept. 1920 with Bernische Kraftwerke A. G. Bern, Switzerland, as Asst. Engr., water-power development (64 000 h. p.) and Supt. of power-house water-power development,

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Muhleberg: June to Sept. 1921 Designing Engr. industrial plants, with Clark, McMullen & Riley, New York City: Oct. 1921 to date with Dwight P. Robinson & Co., Inc., New York City, as Designing Engr., five dams in northeastern part of Brazil, and Asst. Supt., Oros Dam (64 m. high). (Active practice 9.2 years: Res. Ch. 4.4: Design 3.5). Refers to C. W. Comstock, I. W. McConnell, J. A. Sargent, W. W. Schlecht, B. S. Thayer.

BULKELEY, CLAUDE AUGUSTUS—DuPont Bldg., Wilmington, Del.—(Age 47. Born Galesburg, Ill.) (B. S., 1897, and M. S., 1907, Knox Coll., Galesburg, Ill.)—Aug. 155 to Nov. 1900 Engr., Oakmont & Verona Light & Power Co., operating electric light and power plant: Nov. 1900 to May 1901 Electrician in charge of electric equipment, (4) converters and rolling mills, National Steel Co., Mingo Junction, Ohio: May 1901 to Dec. 1906 Chf. Engr. and Electrician, on Federal buildings, St. Louis, Mo., U. S. Treasury Dept., authority later extended to cover Federal buildings in the Middle West: Dec. 1906 to March 1910 Chf. Engr., Board of Education, St. Louis, responsible for operation of mechanical, electrical and laboratory equipment in public schools, also design and installation of similar new equipment in both new and old buildings: March 1910 to April 1915 Engr.-in-Chg. with Marks & Woodwell, Cons. Engrs., New York City, responsible for design and supervision of installation of all work (about \$5 000 000): April 1915 to June 1917 in partnership with J. E. Woodwell, Cons. Engr., New York City: June 1917 to date Superv. Engr., Mech. Experimental Div., Eng. Dept., E. I. duPont de Nemours & Co., Wilmington, Del., mechanical experimental research along commercial lines. (Active practice 22.3 years: Res. Ch. 21.6: Design 18.1). Refers to E. R. Armstrong, R. E. Cullen, M. L. Holman, S. F. Holtzman, V. O. Ketcham, E. E. Wall, J. L. Warner.

BURROWS, EARLE NELSON—214 Bryant Ave., Ithaca, N. Y.—(Age 38. Born Deposit, N. Y.) (C. E., 1907, and M. C. E., 1914, Cornell Univ.)—1907 to 1908 (1 year) Draftsman, Owego (N. Y.) Bridge Co., detailing, estimating and erection: 1908 to 1910 (2 years) Draftsman, American Bridge Co., Chicago, Ill., and Gary, Ind., detailing, (3) estimating and designing: 1910 to 1915 Instructor in, and 1915 to date Asst. Prof. of Bridge Eng., Cornell Univ.: summer 1912 (3 months) Structural Engr., Great Lakes Dredging Corporation, Buffalo, N. Y., designing steel drag line dredge and scow: summer 1916 (3 months) with New York State Barge Canal Office, Albany, N. Y., as Bridge Designer on three reinforced concrete arches over canal at Rochester, N. Y.: summer 1920 (over 1 month) with Bradford (Pa.) Tile Co., as Bridge Designer on bridge and approaches over B. R. & P. R. R.: 1915 to 1922 (periodically) Structural Engr., Cornell Univ., designing and checking structures: 1917 to date (periodically) Bridge Engr., City of Ithaca, investigating and redesigning bridges for increased load, also in charge of repairs. (Active practice 15.9 years: Res. Ch. 7.7: Design 1.4). Refers to F. A. Barnes, E. E. Haskell, H. S. Jacoby, H. N. Ogden, F. J. Seery.

BUTLER, MERRILL—1838 W. Monroe St., Phoenix, Ariz.—(Age 31. Born Gouverneur, N. Y.)—Oct. 1909 to Nov. 1912 Office Asst. and Draftsman, Los Angeles Ry. Corporation, on maps, profiles, street railway special work computations and drafting: Nov. 1912 to May 1917 Draftsman and Asst. Engr., Bridge Dept., City Engr.'s office, Los Angeles, (11) drafting, design and inspection of reinforced concrete arches, wooden bridges, storm drain, asphalt plant, shop buildings, retaining walls (no inspection); design of tunnels; court work in connection with damage suits: May 1917 to July 1919 with U. S. Army, as Student and 1st Lieut., Engr. O. R. C. (May to Aug. 1917), 1st Lieut., Co. D, 316th Engrs. (Sept. 1917 to Feb. 1919); Capt., 316th Engrs. (Feb. to March 1919), and Capt., 604th Engrs. (March to July 1919); until June 1918 training and on miscellaneous engineering construction at Camp Lewis; enroute, in training and combat service (June to Nov. 1918); participation in St. Mihiel, Argonne and Ypres-Lys Offensives, training, enroute and miscellaneous engineering work (Nov. 1918 to July 1919): July to Sept. 1919 Asst. Engr., City Engr.'s office, Los Angeles, street improvement design: Sept. 1919 to date Bridge Engr., Arizona Highway Dept., on design and general supervision of construction of reinforced concrete arch and girder bridges, office building and miscellaneous structures, wooden buildings, steel and wooden bridges, maintenance and repair of bridges. (Active practice 13.1 years: Res. Ch. 5.1: Design 5.5). Refers to P. H. Everett, A. F. Harter, T. Maddock, C. W. Miller, C. C. Small, R. W. Stewart.

CALLANAN, JOSEPH BERNARD—313 West 92d St., New York City—(Age 33. Born New York City.) (C. E., Pol. Inst. of Brooklyn, 1915.)—2 vacations Rodman and Instrumenter, New York, New Haven & Hartford R. R. Co., New York City: June 1915 to

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Feb. 1916 Transitman, Central R. R. of New Jersey; Instrumentman, later in charge (1) of field party, office computations and drafting on survey for valuation and permanent record: Feb. 1916 to Jan. 1917 Transitman, Lehigh Valley R. R. Co., in charge of field party on layout and supervision of construction for shops, buildings, track, etc.: Jan. 1917 to Jan. 1918 Field and Office Engr. for J. R. Taft, New York City, in charge of surveys for railway and industrial properties, maps and estimates for same: Jan. 1918 to July 1919 Lieut, 39th Engrs., U. S. Army, 1 year in France on construction and operation of military railway: Sept. 1919 to Nov. 1920 with Northeastern Constr. Co., New York City, as Asst. to Valuation Engr. in charge of building appraisal for gas plants in Greater New York, surveys of buildings and estimating quantities of same for appraisal: Nov. 1920 to Jan. 1922 on building construction (private work), constructed residence in Hillsdale, N. J. (\$6 000); superintended contract, Elizabeth St. Day Nursery Bldg. alteration (\$25 000): July to Nov. 1922 Asst. Engr., tunnel construction, Board of Water Supply, New York City, inspection of construction on Shandaken Tunnel. (Active practice 6.6 years: Res. Ch. 1.1). Refers to S. K. Clapp, L. C. Conant, R. W. Gausmann, C. W. Hudson, J. R. Taft.

CAMP, CARL ROSS—10 South 18th St., Philadelphia, Pa.—(Age 42. Born Montrose, Pa.)—1903 to 1906 (2½ years) student in Civ. Eng., Lehigh Univ.: 1907 to 1917 (10 years) in private practice as Contr. Engr., constructed concrete dam, Reading, Pa., water supply; 5th St. Bridge, Chester, Pa.; three bridges in Berks County, Pa., and eight in (4) Bucks County, Pa., and foundry building, Atlantic Steel Castings Co., Chester, and drawbridge, Gloucester Turnpike County, Westville, N. J.: 1917 to 1919 (2 years) Supt., and 1919 to 1920 (1 year) Gen. Supt. with Day & Zimmerman, Engrs., Philadelphia, Pa., constructed Bensalem Ave. Bridge over Pennypack Park, Philadelphia: 1920 to 1922 (1½ years) Supt. for T. L. Eyre, R. R. Contr., Philadelphia, constructed Main St. Bridge over Chemung River at Elmira, N. Y.; prepared design for plant, concrete forms, falsework, etc., for all work: 1922 to date in private practice as Contr. Engr. (Active practice 14.5 years: Res. Ch. 14.5: Design 14.5). Refers to B. H. Davis, A. H. Fuller, J. Jones, C. W. MacCornack, H. H. Quimby.

CAMPBELL, LOYD CHESTERFIELD—1813 Cherry St., Los Angeles, Cal.—(Age 32. Born New York City.)—Student, Columbia Univ. (1910-1912) and Univ. of Southern California (1 year): Aug. to Dec. 1912 Instrumentman and Draftsman, Hill R. R., Deschutes, Ore.: Jan. 1913 to Feb. 1914 Instrumentman, United Ry. Co., Portland, Ore.: March (11) to June 1914 Structural Draftsman for Willis J. Dean, San Diego, Cal.: Oct. 1914 to Feb. 1917 Supt. of Constr. and Junior Member, Coast Constr. Co., Los Angeles, Cal., on construction of various sewers, highways, etc.: March 1917 to March 1918 Inspecting Engr., Southern Pacific R. R. Co., Los Angeles, maintenance of way: March 1918 to Jan. 1919 in Air Service, U. S. Army: Feb. 1919 to Oct. 1922 valuation, estimating and Chf. Draftsman, S. P. R. R. Co.: Oct. 1922 to date Constr. Engr., The H. D. Churchill Co., Engrs. and Contrs. for various kinds of pipe-line systems and heavy construction, such as sewers, highways, railroad, etc. (Active practice 9.9 years: Res. Ch. 3.4: Design 1). Refers to G. W. Corrigan, C. J. Herbold, F. B. Kendall, J. MacMillan, C. R. Sumner.

CARTER, CHARLES KEEN, Jr.—Route No. 3, Alexandria, Va.—(Age 22. Born Danville, Va.)—About 2 years student in Civ. Eng., North Carolina State Coll.: June to Sept. 1917 Rodman and Levelman on a private survey: June to Sept. 1918 Instrumentman and Asst. to Supt., construction of retaining wall, with Bernard & Rison, Contrs., Danville, (5) Va.: June to Sept. 1919 with Collins Granite Co. as Instrumentman, laying out track line and grade: June to Sept. 1920 with G. P. Clay, Road Contr., as Asst. to Supt. and Material and Supply Man: Nov. 1921 to July 1922 Asst. to Asst. Engr., Southern Ry., building construction: July to Oct. 1922 Concrete Inspector, North Carolina State Highway, Greensboro, N. C.: Oct. 1922 to date Instrumentman, Virginia State Highway Comm. (Active practice 2.5 years). Refers to J. C. Carpenter, E. C. Dunn, T. Ellett, G. M. Harbert, J. D. Waldrop.

CHEN, TSU YI—533 West Gray St., Elmira, N. Y.—(Age 25. Born Hangchow, Chekiang, China.) (C. E., Pei-Yang Univ., Tientsin, China, 1919; M. C. E., Cornell Univ., 1922.)—162 June 1919 to June 1920 Reinforced Concrete Designer, warehouses and cotton mills, Andersen Meyer & Co., Engrs. and Contrs., Shanghai, China, part of time on field inspection: summer 1921 (3 months) drafting in office of J. A. L. Waddell, Cons. Engr., New

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York City: May 1922 to date Structural Steel Detailer, American Bridge Co. (Active practice 2 years: Design 0.5). Refers to F. A. Barnes, S. Hardesty, H. W. Preston, F. J. Seery, J. R. West.

CLARK, PAUL ACIE—193 Warren Ave., Youngstown, Ohio—(Age 32. Born Youngstown, Ohio.)—1910 to Feb. 1912 (2 years) Draftsman, Penn Bridge, Beaver Falls, Pa., 163 detailing heavy structural steel: Feb. 1912 to March 1915 Draftsman, Southern Bridge Co., Birmingham, Ala., detailing highway bridges and general light structural steel:

(9) June 1915 to March 1919 Draftsman and later Maintenance Engr., Treadwell Constr. Co., Midland, Pa., detailing steel plate construction and general plant maintenance engineering, including new construction: April 1919 to March 1920 Estimator, Reeves Bros. Co., Alliance, Ohio, estimating and designing steel plate construction: March 1920 to March 1921 Sales Engr., Blaw Knox Co., Pittsburgh, Pa., designing and selling steel plate construction: March 1921 to March 1922 private business designing and selling fabricated steel: March 1922 to date Engr., Truscon Steel Co., Youngstown, general engineering and designing in structural steel. (Active practice 12.5 years: Res. Ch. 5: Design 7.7). Refers to C. I. Auten, O. W. Irwin, N. H. Jebejian, J. P. Leaf, N. H. Sturdy.

CLARKSON, JAMES FRANCIS—1424 Yeon Bldg., Portland, Ore.—(Age 54. Born Chicago, Ill.) (B. S., Univ. of Ill., 1890.)—June 1890 to April 1897 with San. Dist. of Chicago, 164 first in charge of party on survey and later in charge of construction on various divisions, including Brighton Park, Summit and Willow Springs: 1897 to 1916 Gen.

(12) Contr., Chicago, buildings and track elevation (2 years); Copper Range R. R., Redridge Dam, mill buildings, copper mines, construction (3 years); Barber Dam, Boise River, Idaho (1 year); Shoshone Dam, Cody, Wyo. (1 year); Yellowstone Dam, Glendive, Mont. (1 year); betterment work, O. R. & N. R. R., Oregon (1 year), Kansas City Southern R. R., Missouri (2 years), and Milwaukee & St. Paul R. R., Iowa (6 months); N. P. R. R. double-tracking, Washington (1 year); tunnel work, S. P. & S. R. R., Spokane (1 year), and United R. R., Oregon (1 year); bridge work, Southern Pacific R. R., Oregon (6 months); Pennsylvania R. R. and Delaware & Hudson R. R., Pennsylvania (6 months); bridge work O. W. R. & N. R. R., Oregon (1 year), and Barber Lumber Co., Idaho (6 months); highway work, Oregon (2 years): since 1916 ship-building, U. S. Govt. (Standifer-Clarkson Co.) (3 years); highway work, O. W. R. & N. R. R., Oregon (1 year); bridge work, Oregon. (Active practice 31.7 years: Res. Ch. 31.7). Refers to D. W. Cole, J. Ericson, C. E. Johnston, S. Murray, H. Nunn, C. H. Purcell.

DANNENBAUM, JOSEPH BOWMAN—3102 Travis St., Houston, Tex.—(Age 24. Born Houston, Tex.)—Jan. to May 1919 Asst. Engr., Humble Oil & Refining Co., Houston,

165 Tex., on design and construction of electric power plant at Goose Creek, Tex., including design of foundations and mechanical layout; had charge of all concrete construction:

(15) May to Aug. 1919 Chf. of Party and Transitman, Humble Pipe Line Co., Houston, on preliminary location survey of 8-in. trunk line: Aug. 1919 to May 1920 Draftsman, Crown Oil & Refining Co., Houston, during construction of oil refinery on Houston Ship Channel; work included design of refinery appliances: May 1920 Engr., James Stewart & Co., Houston; Asst. in charge of excavation, footings, grillage setting on building for Humble Oil & Refining Co.: Jan. to March 1922 Engr. for Tom Tellepson, Houston, in connection with layout work on Manchester Wharf, Houston Ship Channel: March to July 1922 Engr., Foley Bros. Dry Goods Co., Houston, in connection with erection of 3-story department store building; had charge of design of all concrete, ventilating system, etc.: July 1922 to Jan. 1923 Engr., Doullut & Williams Co., Houston, on construction of two pile fenders and foundation for Strauss Bascule Bridge at Port Arthur, Tex.; had charge of layout work and of construction. (Active practice 2.4 years: Res. Ch. 1.5: Design 0.9). Refers to C. G. Cappel, R. J. Cummins, M. C. Erwin, J. C. McVea, J. K. Woolf.

DEDOULOFF, ALEXANDER ALEXANDER—Care, Chicago Great Western R. R. Co., Chicago, Ill.—(Age 29. Born Lougansk, Russia.) (S. B., Mass. Inst. Tech., 1922)—April to

166 Oct. 1913 Asst. Engr. on location, Semirechenskaya R. R., Russia: May to Aug. 1914 Asst. Engr. on location and construction, Nordonetz R. R., Russia: Aug. 1914 to 1917

(8) in active service at the Front: 1917 to 1918 Inspector of munitions, Russian Artillery Comm., New York: 1918 to 1920 with Russian Embassy, Washington, D. C., secretarial work: June 1922 to date Rodman, Chicago Great Western R. R. Co., practically as Instrumentman. (Active practice 1.4 years). Refers to C. B. Breed, H. A. Davies, P. C. Gauger, G. A. Sampson, C. M. Spofford.

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DEMUTH, JACK ERWIN—1737 Walnut St., Kansas City, Mo.—(Age 20. Born St. Louis, Mo.) (B. S. in Civ. Eng., Univ. of Ill., 1915.)—June 1915 to March 1917 Jun. Engr. Illinois

167 State Highway Dept., road and bridge construction, surveying and designing: March to Aug. 1917 with The Parsons Co., Newton, Iowa, Mfrs. of Trench Excavating Equipment

(14) in shops and operating trench excavators: Aug. 1917 to Feb. 1919 Capt., Tank Corps, U. S. Army: Feb. 1919 to Feb. 1922 Sales Engr., The Parsons Co., engineering on sewerage systems and water-works distribution: Feb. 1922 to date Dist. Mgr. at Kansas City for The Parsons Co., and Western Wheeled Scraper Co., Aurora, Ill., sales-engineering. (Active practice 6.7 years: Res. Ch. 1.9: Design 0.3). Refers to I. O. Baker, W. J. Bublitz, H. B. Bushnell, J. E. Huber, F. T. Sheets.

DILLMAN, DANIEL WALTER—80 Altoona Trust Bldg., Altoona, Pa.—(Age 53. Born Pottsville, Pa.)—1888-1889 (1 year) Chairman for M. D. Bowman, Civ. and Min.

168 Engr.: 1889-1890 (9 months) Rodman, Schuylkill & Lehigh Valley Ry.: 1890-1891 (1 year) Rodman, L. V. R. R.: 1891-1893 (2 1/4 years) Rodman and Instrumentman,

(6) L. V. Ry. Co., 1 year in charge of party: 1893 (1 month) Instrumentman for B. A. Cunningham, Civ. Engr., in charge of party: 1893-1895 (2 1/4 years) Asst. to M. D. Bowman, in charge and on design, on surveys, municipal work, reservoir construction, location and construction of electric railways, etc.: 1895-1902 (6 1/2 years) Instrumentman, L. V. R. R., in charge and on design, on maintenance-of-way engineering, erection of shops, construction of sidings, branches, reservoirs, bridges, reconnaissance and location surveys, etc.: Jan. 1902 to Jan. 1903 Engr., Webster Coal & Coke Co., at Cresson and Amsbry, Pa., in charge mine surveys and development and construction of coal tipple, coke ovens, miners' dwellings, and installation of machinery (\$100 000): Feb. 1903 to Feb. 1904 Engr., Harbison-Walker Refractories Co., in charge railroad surveys, survey coal and clay mines, mine development and prospecting: March 1904 to March 1905 Engr., Knickerbocker Contr. Co., on construction of dwellings, stores, hotel, sewer and storm drains, sidewalks, curbing, street grading, etc., all at South Altoona, Pa. (buildings of brick, work approx. \$250 000); also with J. Luden Henry on sewer design and construction: 1905 to 1906 member of firm, Henry & Dillman (1 year) and Henry, Dillman & Loomis (1/2 year), Civ. and Min. Engrs., in charge and on design on paving, and other municipal engineering, mine engineering, design and construction of sewers, bridges, reservoirs, etc.: since Sept. 1906 in private practice of civil and mining engineering, in charge and on design of street paving, sewers, reservoir design, estimates, appraisements, erection of buildings, mining engineering and development, etc.; Engr. for Boroughs of Gallitzin (1904 to date), Sankertown (1908 to date), Lilly (1908-1915), Cresson (1910 to date), Mount Union (1913-1921) and Juniata (1919-1921), Pa., on construction, layout and design of outfall trunk sewers, lateral sewers, erection of municipal building and construction and design of concrete storm drains, etc. (\$32 000) (1904-1905) and design and construction of storm drains and appurtenances and construction of lateral sewers and design and construction of street paving, etc. (1908-1910) (\$30 000), and similar work in 1919-1921 (\$61 000) for Gallitzin; design and construction of sewers and storm drains, design and building of municipal building and miscellaneous construction (\$40 000) (1914-1916), and design and construction of vitrified brick paving and appurtenances (\$54 000) (1915-1916), and similar work in 1919-1921 (\$106 000) for Mount Union; design and construction of vitrified brick paving on principal streets (\$46 000) (1916 to 1918) for Cresson; construction of reinforced concrete paving on Third St., Eleventh Ave. and Broadway (\$65 000) (1919-1921) for Juniata; since 1918 (4 years) also Engr. for Water Comm. of Mount Union; since 1919 also Township Engr. of Allegheny Township, Pa., on design and construction of vitrified brick paving and concrete arch culverts (\$217 000). (Active practice 33.5 years: Res. Ch. 29.2: Design 11). Refers to J. T. Campbell, J. N. Chester, E. E. Duff, Jr., T. Fleming, Jr., L. Hudson, H. Linton.

DOERR, HAROLD FRANCIS—105 North Clark St., Chicago, Ill.—(Age 30. Born Chicago, Ill.) (B. S., Univ. of Ill., 1913.)—July 1913 to Jan. 1916 Draftsman, Designer, and

169 Supt. of Constr., Doerr Bros., Archts., in charge of structural engineering design on general architectural work, steel roof trusses, some small reinforced concrete floor

(8) systems; reported strength of several old buildings; Supt. on 7-story and basement steel fireproof loft building: Jan. 1916 to June 1922 Draftsman, Supt., Archt. (Arch. Engr.) for Sherwin Williams Co., Draftsman and Designer (9 months), Supt. (3 months), in charge of building operations as architectural design of buildings and miscellaneous structures for plant extension of Company and subsidiaries (5 1/2 years): June 1922 to

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date member of firm, Doerr & Doerr, Archts.-Engrs., Structural Engr. in charge of engineering design, specifications, supervision, etc., of general architectural nature, schools, churches, apartment buildings, hotels, office and industrial buildings. (Active practice 9.6 years: Res. Ch. 8.1: Design 7.1). Refers to J. Cerny, F. O. Dufour, P. C. Gauger, L. J. Mensch, G. E. Warren, H. A. Wiersema, B. E. Winslow.

DUNN, ALLISON VAN VLIET—P. O. Box 721, Lawrence, Mass.—(Age 24. Born Galesburg, Ill.) (B. S., Dartmouth Coll., 1921; C. E., Thayer School of Civ. Eng., 1922.)—June 170 to Sept. 1921 Surveyman, U. S. Engr. Office, Washington, D. C., on preliminary survey for new water supply conduit for Dist. of Columbia; acted as Computer and Draftsman: (2) April 1922 to date with Turner Constr. Co., Boston, Mass., until Nov. 1922 as Timekeeper on construction of woolen mill, and since then Asst. Engr. on lines and grades, (Active practice 0.7 year). Refers to P. S. Dow, R. Fletcher, C. A. Holden, R. R. Marsden, A. C. Tozzer.

ENDERSBY, VICTOR ARTHUR—Port Angeles, Wash.—(Age 31. Born Augusta, Mont.) (A. B., Leland Stanford, Jr., Univ., 1916.)—May to Aug. 1913 and May to July 1914 171 Draftsman, California Highway Comm.: July 1914 to Aug. 1915 Asst. Res. Engr., same Commission, Instrumentman and Field Draftsman on construction of mountain highways, (12) Inspector on concrete work, Cost Data Keeper, etc.: Sept. 1915 to May 1916 Field Instructor in R. R. Surveying, Standard Univ., Civ. Eng. Dept.: May 1916 to Feb. 1917 Deck Officer, U. S. Coast and Geodetic Survey, topography, tide and base line levels, wire drag navigation and computation, charge of hookup tender, sounding boat: March to June 1917 Instrumentman, U. S. Reclamation Service, drafting, timekeeping, cost keeping, etc.: Nov. 1917 to Oct. 1918 Sergeant, 1st Class, Signal Corps, U. S. Army, with A. E. F. in France; Instructor in topography, mapping, gas defense, etc.: Oct. 1918 to date with U. S. Army; commissioned Prov. 2d Lieut., Corp. of Engrs. (Oct. 1918), Prov. 1st Lieut., C. of E. (Oct. 1918), Capt. Temp. C. of E. (Feb. 1919), and Capt., Eng. Reserves (Feb. 1920); at present commanding Co. C, 437th Engr. Battalion: May 1919 to Jan. 1920 Transitman, U. S. National Park Service, on mountain highway location, trail layouts, structure and building designs; located and largely designed Grand Canyon Suspension Bridge, Arizona: Feb. 1920 to Oct. 1922 Asst. Engr., same Service, Office Engr. on design of bridges and miscellaneous structures, charge of location of approx. 75 miles of mountain highway, and construction of about 7 miles, including office work: Nov. 1922 to date Ry. Supt., Lyon, Hill & Co., spruce mill and railway (SP. D. R. R. No. 1), Olympic Peninsula. (Active practice 7.1 years: Res. Ch. 2.3: Design 0.7). Refers to J. C. L. Fish, G. E. Goodwin, C. D. Marx, C. Moser, C. B. Wing.

FLORANCE, EDWIN—161 Livingston Ave., New Brunswick, N. J.—(Age 27. Born New Brunswick, N. J.) (B. S., Rutgers Coll., 1916; C. E., Columbia Univ., 1921)—Aug. to 172 Sept. 1919 Draftsman, City of New Brunswick, N. J., on lot subdivision and sewer design: Aug. to Sept. 1920 Asst. Foreman, Maintenance Div., New Jersey State High- (1) way Dept.: June 1921 to July 1922 Eng. Asst., Western Union Telegraph Co., on design and specifications for pole line material and construction: July 1922 to date Engr. with Moran, Maurice & Proctor, Cons. Engrs., extensometer readings on cross lot struts in foundations of Federal Reserve Bank of New York, loading tests on clay. (Active practice 1.5 years). Refers to A. Atkinson, A. H. Beyer, J. K. Finch, W. J. Krefeld, E. B. Lovell, D. E. Moran.

FOLLETT, DONALD GORDON—Oakland, N. J.—(Age 27. Born New York City.)—1914-1917 student in science, Columbia Univ., Extension Course: May to July 1917 Computer, 173 Eng. Dept., Ry. Steel Spring Co., New York City, computing, drafting, simple design, etc., general engineering office work: Sept. 1917 to Dec. 1918 with Dept. of Public (4) Improvements, Newark, N. J., as Transitman and Chf. of Party on construction in connection with raising of Oak Ridge Dam, construction lines and grades, measurements, surveys, computations, etc.: Dec. 1918 to date Transitman, Chf. of Party and Asst. Engr., North Jersey Dist. Water Supply Comm., Newark, on surveys, investigations, tests, drafting, computing, inspecting, etc., on Wanaque Project. (Active practice 5.5 years: Res. Ch. 2). Refers to E. M. Bassett, C. J. Craigmire, N. C. Holdridge, A. H. Pratt, A. L. Sherman.

FOWLER, CHARLES HENRY—466 South Rebecca St., Pittsburgh, Pa.—(Age 30. Born Little Falls, N. Y.) (C. E., Cornell Univ., 1914.)—June 1914 to March 1915 Rodman, 174 State Engr., New York, computing, estimates, Instrumentman: March 1915 to March

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1916 Jun. Asst., Public Service Comm. of New York, Instrumentman, lines and grades, (6) monthly estimate, subway construction, William St., New York City: March to Nov. 1916 Draftsman, Fred T. Ley & Co., Gen. Contrs., Springfield, Mass., detailing and estimating reinforced concrete buildings: Nov. 1916 to May 1917 Draftsman, Corrugated Bar Co., Buffalo, N. Y., designing, detailing, estimating reinforcing steel, reinforced concrete structures: May 1917 to Dec. 1918 Candidate, 1st Officers' Training Camp, Engrs., U. S. Army (3 months); 2d Lieut. (11 months) with 6th Engrs., 9 months in France, bridge building, field hospital erection, dugout and trench construction; 1st Lieut., Engrs. (5 months), Acting Co. Commander with troops, Ft. Benjamin Harrison, Ind.: Feb. 1919 to Nov. 1920 Concrete Engr., Fred T. Ley & Co., New York City, detailing reinforcing steel concrete ships, Mobile, Ala. (3 months), 1st Asst. in charge of placing reinforcement in ships (5 months), in charge of design detailing and placing reinforcement in several large concrete structures, Fairmont, W. Va. (6 months); in charge reinforced concrete structures, large development, Passaic (N. J.) Cotton Mills (5 months), designing, detailing reinforced concrete foundations several large office and apartment buildings, New York City (2 months): Nov. 1920 to date Contr. Engr., Truscon Steel Co., Pittsburgh (Pa.) Office, in charge of design, estimating, contracting for reinforcing steel southern West Virginia; also Company's other products (steel sash, steel joints, standard buildings, etc.) (Active practice 8.3 years: Res. Ch. 4.5: Design 3.8). Refers to E. F. Ball, F. A. Barnes, M. Brown, I. D. Goodwin, C. D. Loveland, E. J. Mershon.

FROMHERZ, ALVIN MATTHEW—507 Title Guarantee Bldg., New Orleans, La.—(Age 32. Born New Orleans, La.) (A. B., 1912, M. A., 1913, and B. S. in C. E., 1916, Marquette Univ.)—June—Sept. 1912 Inspector and Asst. Engr. on concrete highway construction, Milwaukee Highway Comm.: July 1916 to May 1917 and Dec. 1917 to April 1918 with (14) Fromherz & Drennan, Archts. and Contrs., New Orleans, supervising building operations and designing steel and concrete for structures: May to July 1917 Engr. on sewer construction, Milwaukee Sewerage Comm.: July to Dec. 1917 with The Dravo Contr. Co. of Pittsburgh, Pa., as Engr. on shaft and slope work at Smoke Run, Clearfield County, Pa.: April 1918 to May 1919 with 310th Engrs., U. S. Army, active service in St. Mihiel and Argonne-Meuse Offensives, as Master Engr., Senior Grade: June 1919 to date with his father, Jos. Fromherz, Gen. Contr., New Orleans, in complete charge of all operations as well as the executive work; directed work on several million dollars worth of buildings. (Active practice 6.8 years: Res. Ch. 5.2: Design 0.8). Refers to J. W. Billingsley, A. M. N. Blamphip, J. C. Davis, E. L. Jahncke, O. K. Olsen, J. C. Pinney, A. M. Shaw.

GATSLICK, SAMUEL LOUIS—324 Huguenot St., New Rochelle, N. Y.—(Age 34. Born North Adams, Mass.) (C. E., Cornell Univ., 1911.)—Summers 1909 and 1910 Rodman, 176 and May 1912 to July 1913 Timekeeper and Paymaster, lines and grades, on rock excavation, Godwin Constr. Co., New York City: June 1911 to May 1912 Timekeeper, (1) Material Clerk and Paymaster, H. H. Oddie, Inc., lines and grades on 12-story concrete and steel loft building: July 1913 to May 1914 Structural Draftsman, Public Service Comm., 1st Dist., New York City, on subway design: May 1914 to Jan. 1916 Leveler, Dept. of Highways, New York State, preliminary construction and final survey work on roads, inspection and in charge of water-bound macadam repair contract; inspection bituminous, brick and concrete roads, preparation preliminary and final estimates: May 1917 to Jan. 1919 part of time on engineering and other work and part of time ill; Candidate, E. O. R. C., at 1st Plattsburg Camp, and Aug. 1917 commissioned 1st Lieut., E. O. R. C.; with 302d and 506th Engrs.; Jan. to Aug. 1918 overseas: June 1919 to June 1920 with G. Richard Davis & Co., New York City, as Timekeeper, Material Clerk and Asst. to Supt., on construction of \$1 250 000 loft building; acted as Asst. in charge of several departments: June 1920 to Jan. 1921 in West on miscellaneous engineering work; a short time with Kansas Highway Comm. and 2 months with J. Fred Roberts of Denver, Colo., acting as Commissary, Paymaster, etc., on road work in Nebraska: July to Dec. 1922 part of time on engineering and other work and part of time ill; later Engr. on layout work, Raymond Concrete Pile Co. on 4 000-pile contract. (Active practice 8.2 years: Res. Ch. 2.5). Refers to H. M. Bergman, C. R. Bliss, M. S. Falk, H. D. Hynds, H. J. Patterson, F. Remsen, V. G. Thomassen.

GILLINGHAM, JOSEPH HARVEY—208 North 34th St., Philadelphia, Pa.—(Age 55. Born Philadelphia, Pa.)—June 1883 to April 1891 with William H. Jones, Surveyor and 177 Regulator, 12th Dist., Philadelphia, until May 1888 as Apprentice, field and office work in connection with municipal construction facilities and property line surveys; then

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(4) Asst. in charge of field work on construction of bridges, sewers, paving of streets, macadam roads, location of property lines and other surveying; assessment of cost municipal improvements and estimates: April 1891 to July 1895 Prin. Asst. Surveyor, Bureau of Surveys, Philadelphia, in 12th Survey Dist. (under Mr. Jones), in charge of field work on construction of municipal improvements and on design of sewers, street system and grades, paving of streets and macadam roads, estimates and assessment of improvement costs: July 1895 to May 1922 Surveyor and Regulator in Philadelphia, also Member of Board of Surveyors, until Aug. 1917 in 12th Dist., had direct supervision and responsible charge (in about 15 sq. miles) of construction of municipal improvements, sewers, bridges, street paving, design of branch sewers and street paving and macadam roads, design of street system and drainage and of all property surveys and land subdivision; after Aug. 1917 in 7th Dist., Special-Asst. to Chf. Engr.; from Jan. 1921 to March 1922 Acting Pres., Board of Surveyors: May 1922 to date Asst. Chf. Engr., City of Philadelphia, Vice-Pres., Board of Surveyors, Acting Surveyor and Regulator, 7th Dist., in general charge of design of entire street system of city, also in responsible charge of district work. (Active practice 39.5 years: Res. Ch. 36.1: Design 31.7). Refers to H. H. Quimby, H. T. Shelley, J. A. Vogleson, S. T. Wagner, G. S. Webster.

GOODALL, GEORGE EDWIN—2426 Le Conte Ave., Berkeley, Cal.—(Age 28. Born San Francisco, Cal.) (B. A., Univ. of Cal., 1920.)—June 1916 to Feb. 1918 Draftsman and 178 Asst. Engr. with P. A. Haviland, County Surveyor, Alameda County, drafting, estimates, surveying and bridge design: Feb. 1918 to April 1919 Ensign, U. S. Navy, acted as (13) Executive Officer on Sub-Chaser 427: May 1919 to Aug. 1920 with Union Oil Co. of California, first as Draftsman and later in charge of surveys at Oleum Refinery; designed structures incidental to refinery work; Asst. to Engr. in charge of construction of wharves: Aug. to Oct. 1920 Draftsman, Pacific Fruit Express Co., Structural drafting on plans for refrigeration plants: Oct. 1920 to April 1921 with Sutter Basin Co. as Engr. in charge of land leveling; drainage investigations; design of flumes, bridges, headgate structures, collapsible dam: June-Aug. 1921 Draftsman during location, Minarets & Western Ry. Co.: Sept.-Dec. 1921 with Pacific Gas & Elec. Co., drafting on right-of-way work for transmission lines: Jan.-Nov. 1922 Draftsman, Sugar Pine Lumber Co. and its subsidiary, Minarets & Western Ry. Co.; Field Draftsman on location of Lumber Co.'s railroad; designed structures for M. & W. Ry. Co., concrete siphons and bridge, tank tower, trestles, etc.; in charge of bridge construction in field: Nov. 1922 to date Structural Designer with W. L. Huber. (Active practice 5.1 years: Res. Ch. 1.6: Design 1.2). Refers to W. L. Huber, G. A. Posey, R. J. Reed, F. H. Tillinghast, L. C. Willey, B. Wuth.

GRANDY, ALEXANDER CHARLES—8815 One Hundred and Ninety-first St., Hollis, N. Y.—(Age 45. Born New York City.) (B. S., 1901, and C. E., 1907, Cooper Union.)—179 1902 to date (21 years) with Thompson Starrett Co., New York City, on structural design, construction, inspection and preparation of specifications, estimates and reports (1) on building construction. (Active practice 21 years: Res. Ch. 12: Design 2). Refers to J. Dougan, N. M. Loney, A. G. Moulton, G. Simpson, J. H. Wells, O. Wolpert.

HAGERTY, JOHN FRANCIS—4433 N. Albany Ave., Chicago, Ill.—(Age 40. Born O'Neill, Nebr.) (A. B., Creighton Univ., Omaha, Nebr., 1905.)—Aug. 1906 to Aug. 1907 Rodman, 180 Instrumentman and Computer for Rietze & Storey of Seattle, Wash., on subdivisions, street and sewer and water power surveys: Sept. to Dec. 1907 Topographer, E. & C. V. (8) Traction Co., on railroad preliminary and location survey from Everett to Falls City, Wash. (about 30 miles): Feb. to June 1908 Rodman for Rietze & Storey making surveys for diversion and storage of water for power for Superior Portland Cement Co., Concrete, Wash.: July to Nov. 1908 Rodman, Grand Trunk Pacific Ry.: Dec. 1908 to March 1909 Rodman and Instrumentman for Rietze & Storey on surveys for logging and quarry railroad and aerial tramway for Superior Portland Cement Co.: April to Aug. 1909 Computer, Eng. Dept., City of Seattle: Sept. to Nov. 1909 Transitman, Oregon Trunk R. R.: Jan. to Feb. 1910 Rodman and Feb. to Aug. 1910 Instrumentman, Great Northern R. R. Co.; Aug. 1910 to Feb. 1911 Topographer, Grand Trunk Pacific Ry.: May 1911 to May 1912 Contr., street grading and other work, Los Angeles, Cal.: June to Nov. 1912 Instrumentman, Atchison, Topeka & Santa Fe Ry. Co.: Dec. 1912 to Feb. 1913 making subdivision surveys for owners in San Diego, Cal.: April 1913 to June 1914 and July 1915 to Nov. 1916 Computer on valuation, and July 1914 to July 1915 Draftsman, Chicago, Milwaukee & St. Paul Ry.: Nov. 1916 to March 1919 Constr. Engr., Inland

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Steel Co., Indiana Harbor, Ind., in charge of construction of sewer, water and steam lines, pumping and heating plants, machinery foundations, etc.: April 1919 to date Field Engr., Chicago Union Station Co., in charge of construction of streets, sewers, concrete and steel viaducts, retaining walls, heating plant, tunnels, conduits, subways, etc. (Active practice 15.8 years: Res. Ch. 6.1: Design 6.1). Refers to G. K. Cooper, R. W. Emmert, A. J. Hammond, A. G. Holt, W. J. Howard, R. J. Middleton.

HANCOCK, EDWIN—2047 Ogden Ave., Chicago, Ill.—(Age 38. Born Chicago, Ill.) (Lewis Inst., Chicago, Ill., 1908)—1908 to 1911 (3 years) with Wm. B. Ewing, as Res. and 181 Office Engr. on sewers, water mains and paving work: 1911 to 1914 (3 years) in partnership with Mrs. W. B. Ewing, F. L. Stone and W. Allen in municipal engineering:

(8) 1914 to date (9 years) in private practice, municipal engineering; designed and installed (as Engr.) sewers, water-works, water mains, pavements, etc., for LaGrange, LaGrange Park, Western Springs, Hinsdale, Brookfield, Lyons, Riverside, Berwyn, Hickney, Broadview, Elmhurst, Villa Park, West Chicago, Westmont, Harvard, Posen, Bensonville, Grand Ridge, Galva, Elmwood Park, and Park Ridge, Ill. (Active practice 15 years: Res. Ch. 13: Design 12.5). Refers to W. D. Gerber, P. E. Green, C. D. Hill, G. C. D. Lentz, F. A. Randall.

HERCK, GEORGE EDWARD—651 West 171st St., New York City—(Age 35. Born Paris, France.) (B. S. in C. E., 1910, and C. E., 1911, N. Y. Univ.)—1910 to 1911 Eng. 182 Asst., and 1911 to 1912 (1 year) Draftsman and Instrumentman, Erie R. R. Co.: 1912 to 1915 (3 years) Topographical Engr., State Board of Taxes, New Jersey, on surveys, Chf. (1) of Party in charge of drafting room: 1 year with McArthur Bros., New York City, as Field Engr. in charge of location and construction of railroads, water lines and warehouse, Port Newark Terminals: 1 year with The Foundation Co., as Field Engr. in charge of location and construction, railroads, highways, water system and public utilities at Edgewood Arsenal, Md.: 1918 to 1919 (2 years) Production Engr., in charge of production and progress, shipyard work, The Foundation Co., Savannah, Ga.: 1919 to 1920 (1 year) Superv. Engr., industrial plant (\$500 000), C. E. Sheppard Co., Long Island City: 1920 to 1921 (1 year) Estimator and Supt. in charge of office and field work, residential and industrial work, Stevenson & Cameron, Inc.: 1921 to 1923 (2 years) in private practice as Gen. Contr., residential and industrial buildings. (Active practice 12 years: Res. Ch. 9: Design 5). Refers to H. G. Balcom, M. Grunauer, R. M. Merriaman, L. G. Mertz, Jr., C. H. Snow.

HICKS, WALTER FRANCIS—Greenville, Tex.—(Age 35. Born Waltham, Mass.)—May 1910 to Jan. 1911 and April to Nov. 1912 Rodman and Traverseman, Nov. 1912 to April 183 1913 on temporary work, and April-Dec. 1913 Traverseman and Topographer, U. S. Geological Survey: Jan. 1911 to April 1912 student, special course, Tri-State Coll. of (15) Eng., Angola, Ind.: Feb.—April 1914 Surveyor and Inspector, U. S. Engr. Dept., New Orleans, La.: May-Dec. 1914 and Aug.—Dec. 1915 Topographer, and Feb. to Aug. 1915 on horizontal control in Texas, U. S. Geological Survey: Dec. 1915 to April 1916 with City Engr., Greenville, Tex., on topographic map of city: May to Sept. 1916 Topographer in Harris County, Tex., Sept. 1916 to Jan. 1917 control work in Oklahoma, Jan. to April 1917 office work in Washington, D. C., and April to July 1917 primary levels and topography in Georgia, all for U. S. Geological Survey: July 1917 to Jan. 1918 2d Lieut., E. O. R. C., U. S. War Dept., topography in Georgia and Michigan: March 1918 to June 1920 with County Engr., Hunt County, Tex., topography, alignments, cross-sections, office and various work relative to highway engineering; topographic map of Commerce, Tex., and other maps for sewerage and disposal plants: June 1920 to June 1921 topographic maps, plans of reclamation, etc., for levee districts in Delta, Hopkins and Lamar Counties (total 30 000 acres); June 1921 to date on construction, completed Hopkins Co. 3, Delta Co. 4 and 8; Collin Co. 1 and Lamar Co. 1 under construction; on contracts for Delta 1-2 and 7, Hopkins 1 and 4. (Active practice 10.6 years: Res. Ch. 7.6: Design 2.6). Refers to C. H. Birdseye, G. R. Burtner, W. D. Dockery, A. D. Duck, E. N. Noyes, A. A. Stiles.

HOUGH, OTTO VERE—132 South 13th St., Lincoln, Nebr.—(Age 36. Born Albion, Nebr.) (B. Sc. in Civ. Eng., Univ. of Nebr., 1908)—July 1908 to July 1910 member of firm, 184 Thorpe & Hough, Engrs. and Contrs., Iola, Kans., designed and constructed one 40-ft., one 60-ft. span reinforced concrete arch bridge: firm built 4 miles of railroad for Mid- (15) West Portland Cement Co.; 3 miles macadam road for Allen County, Kans.: May 1909

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to May 1910 also City Engr. of Iola, planned and superintended \$80 000 extension of sanitary sewers, designed and reconstructed concrete dam across Neosho River for municipal water supply; had charge of 12 000 sq. yd. of asphalt paving: July 1910 to July 1912 Asst. Engr. with Brooks & Jacoby, Civ. Engrs., Kansas City, Mo., Res. Engr., 6 miles paving, Carrollton, Mo., prepared specifications and had absolute charge of this paving; Field Engr. in charge of surveying parties on drainage and flood control: July 1912 to Jan. 1913 Supt., Columbia (Mo.) Paving Co., had charge of construction of 45 000 sq. yd. brick pavement in Carrollton, Mo.: Jan. to July 1913 Cons. Engr., Good Roads Constr. Co. of Kansas City, which operated in Mississippi and Missouri: July to Sept. 1913 with Smith & Boulay, Cons. Engrs., Toledo, Ohio, as Res. Engr. on brick pavement, Sidney, Ohio, and asphalt pavement, St. Louis, Mich.: Sept. 1913 to April 1920 Jun. Engr., Engr. Corps, U. S. War Dept., Kansas City, Mo., Inspector, Missouri River Improvement (3½ years); in charge of field construction parties (1½ years) and of surveys, Missouri River (1½ years): April 1920 to date Mgr., Kansas City (Mo.) office of Woods Bros. Constr. Co., Lincoln, Nebr., which designs and constructs river improvement work; Engr. in charge of development of steel retards for bank protection on Western rivers. (Active practice 13.5 years: Res. Ch. 9.6: Design 0.1). Refers to E. W. Bennison, E. C. Constance, P. A. Hartung, L. A. Hunt, C. E. Jacoby, F. Y. Parker, R. N. Towl.

HUNT, SIMON ERKEL—5210 Norledge Pl., Kansas City, Mo.—(Age 29. Born Edwardsville, Kans.) (B. S. of C. E., Purdue Univ., 1917).—June to Sept. 1916 185 Asst. on Eng. Staff, Cleveland, Cincinnati, Chicago & St. Louis R. R., Chainman, Rodman, etc., and Draftsman: June to Aug. 1917 with Harrington, Howard & Ash, Kansas City, (14) Mo., as Draftsman, mainly for steel and concrete bridges and viaducts: Sept. 1917 to April 1918 Computer of field notes on road and track valuation of common carriers, Interstate Commerce Comm.: April to June 1918 Instrumentman on highway surveys and Designer on bridges, with Garrett & Slack, Montgomery, Ala.: April 1919—July 1920 Jun. Highway Engr., State of Illinois, Div. of Highways, Res. Engr. in charge of construction of concrete and asphalt highways and preparation of plans and estimates for same: Aug. and Sept. 1920 Asst. County Engr., Pocahontas County, Iowa, Res. Engr. in charge of construction of gravel highways: Oct. 1920 to Oct. 1922 Asst. Highway Engr., State of Illinois, Div. of Highways, Bridge Designer on highway bridges and Res. Engr. on construction of bridges and concrete highways: Oct. 1922 to date Supt. of Constr. for H. C. Botsford, Gen. Contr., Tonganoxie, Kans., Supt. on complete sewer system for the city. (Active practice 4.8 years: Res. Ch. 2.5: Design 1.4). Refers to G. F. Burch, H. B. Bushnell, B. H. Piepmeler, L. Schwartz, F. T. Sheets.

HUNTER, NELSON HARTWELL—2406 Richton Ave., Detroit, Mich.—(Age 32. Born St. Johns, Mich.) (B. S. of E., Univ. of Mich., 1919).—June to Sept. 1917 office work, 186 plotting and laying out subdivisions, field work, Chf. of Party, surveying for subdivisions, Charles Fish, Akron, Ohio: July 1919 to May 1920 office work, Draftsman (7) and Checker in Tank and Tower Dept., Checker in Structural Dept., Pittsburgh-Des Moines Steel Co.: May 1920 to date Asst. Engr., City of Highland Park, Mich., office work, grade separation, laying out grades and drafting plans for paving of streets and alleys, field work, staking out and inspecting, paving of streets and alleys, building of sewers. (Active practice 3.6 years: Res. Ch. 1.5: Design 0.2). Refers to F. W. DuBois, I. D. Goodwin, L. M. Gram, C. T. McIntyre, H. E. Riggs.

IRVING, THOMAS HENRY—233 Broadway, Room 1008, New York City—(Age 38. Born Jersey City, N. J.).—Sept. 1905 to May 1906 Estimator and Draftsman, Milliken Bros., 187 New York City, figuring weights of steel members and detailing structural steel: May to Nov. 1906 Draftsman and Asst. Supt., Turner Constr. Co., New York City, detailing reinforced concrete construction for buildings and designing beams: Nov. 1906 to Aug. 1917 (1) Designing Engr., Concrete Steel Eng. Co., New York City, and Draftsman, estimating reinforced concrete structures, including buildings, bridges and tanks: Aug. 1917 to Nov. 1919 Structural Expert Aide, League Island Navy Yard, Public Works Dept., U. S. Navy, Philadelphia, Pa., supervising construction of reinforced concrete buildings, piers, tunnels and concrete tanks and hospital buildings, Grays Ferry Hospital Reservation: Nov. 1919 to April 1921 Designing Engr. with Ballinger & Perrot, Archts. and Engrs., Philadelphia office; Structural Engr., same firm, New York office, general engineering work, including supervision and letting of contracts: May 1921 to date Mgr. and Engr. with Emile G. Perrot, Archt. and Engr., New York office, in charge of office and supervision of work in

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New York Dist., general engineering and letting of contracts. (Active practice 17.4 years: Res. Ch. 5.4: Design 10). Refers to G. M. Bull, E. J. Fitzmaurice, E. H. Harder, W. Mueser, W. P. Parker, E. G. Perrot.

JENNINGS, ALFRED HAROLD—Nowata, Okla.—(Age 42. Born Penetanguishene, Ont., Canada.)—Nov. 1902 to 1914 for several years with Kenefic Constr. Co., as Chainman, 188 Rodman, Levelman and Transitman on railroad location, Instrumentman and Concrete Inspector on construction; later Transitman, Instrumentman and finally Asst. to Bridge (15) Engr., Oklahoma Central R. R.; and on numerous other minor engagements: Jan. to July 1914 Instrumentman, and Res. Engr. on construction, Tela Ry., at Tela, Spanish Honduras: March to May 1915 in charge of party on drainage survey in Rogers County, Okla., for Homer J. Wilkins: May 1915 to May 1917 Topographer, Locating and Res. Engr. in charge of parties; Draftsman, maps, profiles, culverts, and bridges, also cost estimates and at times on design, Truxillo Ry. Co., Trujillo, Spanish Honduras: May 1917 to April 1918 in partnership with W. P. Halliday, Cons. Engr. of Hughes County, Okla., in charge of location, plans and construction of county and township roads, bridges and culverts: April 1918 to date with Oklahoma State Highway Dept. as Instrumentman, Draftsman, and Locating and Project Engr. in charge of locating parties and construction of Federal Aid Roads; at times on design. (Active practice 8.3 years: Res. Ch. 7). Refers to E. S. Alderman, M. L. Cunningham, F. Herrmann, M. E. Hiet, D. H. Jones, D. W. Patton, H. J. Wilkins.

KETT, TIMOTHY JUSTIN—Tufts College, Mass.—(Age 32. Born Fair Haven, Vt.) (B. S. in C. E., Tufts Coll., 1914.)—1913 (about 4 months) Engr., Eng. Dept., Rutland (Vt.) 189 Ry., Light & Power Co., on surveys, field and office work: 1914–1915 (2 years) designing and estimating, Rockwood Sprinkler Co., on surveys, designs, estimates and plans (2) for sprinkler layouts: 1916–1918 (2½ years) designing and estimating, E. J. Cross Co., Worcester, Mass., on designs, estimates and plans for buildings, with construction supervision co-operation: 1918 with U. S. Army, F. A. C., O. T. S.: 1919–1920 (1½ years) estimating, Wm. F. Kearns Co., Boston, Mass., on mill and loft buildings, warehouses, etc.: 1920 to date (2½ years), teaching civil engineering, Tufts Coll. (Active practice 7.9 years: Res. Ch. 7.7: Design 4). Refers to H. P. Burden, S. Lund, E. H. Rockwell, F. B. Sanborn, J. A. Tosi.

KILER, WILLIAM HENRY—639 So. Grant Ave., Wilmington, Del.—(Age 33. Born Chicago, Ill.)—April 1907 to Sept. 1909 with Sur Pacifico de Mexico, until Nov. 1908 190 as Asst. to Gen. Foreman, Guaymas Shops, Shop Draftsman, routing and assigning shop work, procuring supplies, raw castings, tools, etc., scheduling production, time studies; (4) then Draftsman in office of Supt. of Motive Power, Empalme, Sonora, Mexico, Designer of locomotive parts; and on shop layout and design, Empalme Shops and Power House: Sept. 1909 to Aug. 1910 Draftsman in office of Chf. Engr., Southern Pacific Co., Pacific System, San Francisco, Cal., on layout work and design of numerous terminal facilities, station buildings, shops, etc.: Aug. 1910 to Aug. 1911 Officeeman and Asst. to Chf. Engr., Porterville Northeastern Ry., recording location notes, on survey, calculation of traverse, plotting maps, profiles, etc., making maps, handling office records for construction work, etc.: Aug. to Nov. 1911 Officeeman on location survey, Willamette Pacific R. R.: Nov. 1911 to March 1918 Technical Asst. to Chf. Engr., S. P. Co., Oakland, Cal., on Northern Dist., in active charge of drafting and design on construction of Willamette Pacific R. R. and Oregon Eastern R. R.; also supervised technical subjects involved in construction of 130 miles railroad with attendant structures, terminals, etc.: March 1918 to date with Hercules Powder Co., until Nov. 1919 as Asst. to Engr. in charge of construction seven T.N.T. plants, at Hercules, Cal.; in responsible charge of design of seven T.N.T. plants, three sulphuric acid plants, 23-still nitric acid and construction of the various units; then Chf. of Design Div., Wilmington office, responsible charge of design and construction, involving construction of entire plants to improvements of single units (expenditure \$3 000 000); since April 1922 Acting Head of Eng. Dept., having responsible charge of design and construction of work totaling \$600 000, since retirement of Chief in active charge of the work. (Active practice 15.7 years: Res. Ch. 9.8: Design 2.3). Refers to E. R. Armstrong, C. B. Dugan, C. S. Freeland, H. H. Hadsall, G. Haselton, A. S. Hirzel, W. M. Kallasch, H. I. Randall, J. L. Warner.

KNIGHT, HENRY CLYDE—615 Eighth St., Port Arthur, Tex.—(Age 32. Born Ennis, Tex.)—Aug. 1910–April 1911 Back Flagman, Axeman, Stake Artist, Chainman and Rod- 191 man, Q. S. D. & R. Ry.: July–Sept. 1911 Chainman, St. Louis & San Francisco Ry.:

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Jan. 1912-Dec. 1913 and Sept. 1916-Aug. 1917 Transitman, Atchison, Topeka & Santa Fe

(15) Ry.: Sept. 1917-Feb. 1918 Transitman, Gulf, Colorado & Santa Fe Ry., on location and valuation: March-Aug. 1918 Res. Engr., Wier Long Leaf Lumber Co., on railroad location and construction: Sept. 1918 to Oct. 1922 Civ. Engr. (private work), Newton County, highway work, surveying and mapping: Oct. 1922 to date Transitman on construction, Gulf Refining Co. (Active practice 9.2 years: Res. Ch. 5.8). Refers to F. F. Axtell, P. H. Everhard, H. Henderson, J. W. Stewart, R. Y. Walker.

KOCH, VICTOR GEORGE—Denton, Tex.—(Age 24. Born Hartsburg, Mo.) (B. S. in C. E., Mo. State Univ., 1919.)—June 1919 to June 1920 Asst. with Mr. Cawthorn, Cons. Engr., 192 Columbia, Mo.: June 1920 to June 1921 Rodman and Inspector with State Highway Engr. of Missouri: June 1921 to date City Engr., Denton, Tex. (Active practice 3.2 (15) years). Refers to J. H. Brillhart, J. D. Fowler, O. H. Koch, H. A. La Rue, W. S. Williams.

KOZMA, ALBERT BELA—50 Church St., Room 291, New York City—(Age 26. Born Otteveny, Hungary.) (C. E., Jozsef Tech. Univ., Budapest, Hungary, 1920.)—Jan. 1919 193 to Aug. 1920 Civ. Engr., Royal Hungarian Rys., steel and concrete structural drafting and design: April 1922 to date Draftsman with Alexander Potter, sanitary engineering (1) office practice: student in general science, Cooper Union, night course (5th year). (Active practice 2.4 years: Design 2.4). Refers to C. L. Bogert, A. Castillo, Y. Grau, H. R. Codwise, G. Morrison, A. Potter, J. P. J. Williams.

KYLSTRA, JOHN—747 Sixteenth St., Seattle, Wash.—(Age 28. Born Enquelum, The Netherlands) (B. S. in Civ. Eng., Univ. of Wash., 1922.)—Refers to W. F. Allison, I. L. (12) Collier, C. C. May, C. C. More, J. C. Rathbun, H. K. Rubey.

LAMONTAGNE, HENRY GASTON—111 State St., Brooklyn, N. Y.—(Age 27. Born Winter Park, Fla.) (B. Sc. in Civ. Eng., McGill Univ., 1920.)—July 1920 to April 1922 195 crete Designer, Ch. Des Baillelets, bridge design and surveying: May to Dec. 1922 Structural Steel Detailer, Dominion Bridge Co., Lachine, Que., Canada. (Active practice 2.3 (1) years: Res. Ch. 1.6: Design 0.7). Refers to F. W. Cowie, E. G. Evans, S. J. Fortin, W. J. Francis, H. M. MacKay.

LARSEN, HERMAN—Boonville, Ind.—(Age 33. Born LaCrosse, Wis.) (B. S. in C. E., Univ. of Wis., 1913.)—1910 to 1911 (1 year) Rodman and Instrumentman, Chicago, 196 Burlington & Quincy R. R.: 1913 to 1914 (1½ years) Prin. Asst. Engr. with R. L. Adams, Civ. and Coal Min. Engr., design and superintendence of municipal works, coal (9) mine field and office engineering: 1914 to 1917 (2½ years) Recorder and Acting Asst. Field Engr., Interstate Commerce Comm., Div. of Valuation, often in charge of field party: 1917 to 1919 (2½ years) Capt., Engrs., U. S. Army, cantonment construction, including buildings and roads; Personnel Adjt. for technical troops; 7 months Commanding Officer, Ft. Benjamin Harrison: 1919 to 1920 (6 months) Reinforced Concrete Designer, building design, Gen. Motors Corporation, Muncie (Ind.) Plant, design of factory buildings, tunnels, etc.: 1920 to date (2¾ years) member of firms, Slattery & Larsen, Engrs. and Bldrs., and Municipal Constr. Co., road and bridge construction; at present approx. \$400 000 contracts; drainage and municipal engineering and coal mine development, on 18-mile drainage project, also highway work. (Active practice 10.7 years: Res. Ch. 6.7: Design 4.7). Refers to A. H. Hinkle, B. R. McBride, D. W. Mead, T. C. Mullins, W. D. Pence, L. S. Smith, F. E. Turneaure, L. F. Van Hagan.

LEIGHTY, JOHN RUCKLE—1143 Transportation Bldg., Chicago, Ill.—(Age 52. Born Spencerville, Ind.)—3 years student, Rose Polytechnic Inst.: 1891 to 1899 with Chicago 197 & North Western Ry., 5 years as Rodman, Leveler, Transitman, Asst. Engr., Supt. and Engr. in charge of construction and track elevation in and around Chicago; 2½ years (8) Roadmaster, at Sparta, Wis., and Carroll, Iowa: 1899 in charge of track laying and ballasting on new locations of parts of Union Pacific Lines in Wyoming: 1900 to 1907 with Baltimore & Ohio Ry., 1 year as Roadmaster from Willow to Deshler, Ohio; 2 years Asst. Engr., Asst. Div. Engr. and Div. Engr., at Newark, Ohio, Winchester, Va., and Parkersburg, W. Va.; 4 years Div. Engr. at Cumberland, Md.: 1907 to 1918 (11 years) Dist. Engr. at Kansas City, Mo., and 1918 to 1920 (2 years) Chf. Engr., Missouri Pacific Ry. Co.: 1921 to date (1½ years) Engr. for Presidents' Conference Committee on physical valuation of railroads. (Active practice 30 years: Res. Ch. 25.5). Refers to T. L. Condron, C. F. W. Felt, A. J. Hammond, C. A. Morse, A. W. Newton.

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LESH, HARRY WILLIAM—38 West 114th St., New York City—(Age 27. Born New York City.) (C. E., Columbia Univ., 1917.)—1917 to 1918 (1 year) Jun. Engr., Public Service Comm. of New York, Asst. in charge of final estimates and design of subways, estimates on concrete, steel, etc., design steel: 1918 to 1919 (1 year) Sergeant, 1st Class, A. E. F., (1) Co. N, 22d Engrs., railroad construction, Toul Sector, in charge of preliminary surveys and final location, also railroad construction: 1919 to 1920 (1 year) Jun. Engr., Public Service Comm., New York, final estimates of subways, Asst. in charge of all estimates, concrete, steel, brick and mastic, etc.; in charge of steel design and tunnel construction: 1920 to 1921 (1 year) Asst. Structural Engr. with Stone & Webster, Boston, Mass., had charge of preliminary estimates on steel, let contracts, wrote specifications, designed steel: 1921 to 1922 (1 year) Asst. Div. Engr., Atlantic Fruit Co. of New York, in charge of railroad location, final estimates, topographical surveys, sugar mill construction, railroad construction in Cayo Mambi, Oriente, Cuba: 1922 to date (1 year) Engr., Marcus Contr. Co., New York City, excavation, foundations, shoring, underpinning, in entire charge of work, estimates, supervises and gets work. (**Active practice 6 years: Res. Ch. 4: Design 2.**) Refers to J. K. Finch, W. Ginsburg, E. B. Lovell, L. L. Melius, J. H. Myers, C. D. Searle.

LOVELL, CARLETON WOODWARD—P. O. Box 31, Dennis, Mass.—(Age 30. Born North Cambridge, Mass.) (S. B., Mass. Inst. Tech., 1916.)—July 1916 to March 1921 Asst. on Engr. Corps, Pennsylvania R. R., until Dec. 1919 on construction, member of field party, Chf. of Party and Asst. Res. Engr.; then on valuation, field and office work for Div. Engr.: (2) May-Dec. 1921 Field Engr., MacArthur Bros. Co., on concrete highway construction (8 miles, grading, pavement and bridges) for State of Pennsylvania: April 1922 to date Field Engr., W. F. Carey Co., Inc., on earth dam construction (modified hydraulic fill dam, 200 ft. high) for New England Power Co. (**Active practice 6 years: Res. Ch. 4.1.**) Refers to C. F. Allen, F. C. Hitchcock, R. M. Merriman, R. F. Olds, C. M. Spofford.

LUTHER, HOWARD BOURNE—Univ. of Cincinnati, Cincinnati, Ohio—(Age 36. Born Attleboro, Mass.) (S. B., Mass. Inst. Tech., 1908.)—Summers 1905-1907 (total 6 months) Asst. with H. F. Conant, city work and surveying, Attleboro, Mass.: 1908 to 1910 (2 years) Asst. in Civ. Eng., Massachusetts Inst. of Technology: summer 1909 (9) (3 months) Asst. on Eng. Corps, M. of W., P. C. C. & St. L. Ry., Logansport, Ind.: 1910 to 1912 (2 years) student, Technische Hochschule, Dresden, Germany: 1913 to 1917 (4 years) Instructor in Civ. Eng., Massachusetts Inst. of Technology: summer 1914 (4 months) in Bridge Erection Dept., Pennsylvania Steel Co., Steelton, Pa.: 1917 to 1919 (2 years) Lieut., Constr. Corps, U. S. Naval Reserve, with Aircraft Div., Bureau C. and R., Navy Dept., in charge Eng. Sec. of this division: 1919 to 1922 (3 years) Asst. Prof. of Civ. Eng., Massachusetts Inst. of Technology: summers 1919-1922 (total 8 months) in administrative charge of M. I. T. Summer Surveying Camp, East Michias, Me.; 1922 to date Prof. of Civ. Eng., Univ. of Cincinnati, in charge of Dept. of Civ. Eng. (**Active practice 12.2 years: Res. Ch. 5.7: Design 0.6.**) Refers to H. K. Barrows, C. B. Breed, E. D. Gilman, C. M. Spofford, G. F. Swain, C. D. Thurber.

LYNCH, WILLIAM THOMAS—356 West 120th St., New York City—(Age 29. Born New York City.)—1912 to 1914 (2 years) Rodman, Pittsburg Contr. Co., on construction of Aqueduct Tunnel, New York City, handling instruments, etc.: 1914 to 1915 (1 year) Jun. Asst. Engr., Public Service Comm., New York, on construction of dual subway (1) system, giving lines and grades for concrete and steel construction, subsurface work, handling instruments, office work, etc.: 1915 to 1917 (1 year) and 1919 to 1920 (1½ years) Instrumentman, New York Central R. R. Co.: 1917 to 1919 (1½ years) with U. S. Navy, Aviation, as Photographer and Aerial Gunner, also Instructor in aerial gunnery: 1921 to 1922 (1½ years) Surveyor for G. O. Rudolphy, New York City, city surveying for building construction, etc.: 1922 to date (3 months) Jun. Asst. Engr., Transit Comm., New York City, on inspection of equipment and operation of transit lines. (**Active practice 9.1 years.**) Refers to S. E. Coombs, G. A. Noren, J. W. Pfau, Z. H. Sikes, B. S. Voorhees.

MCCARROLL, STEPHEN YOUNG—Lock No. 8, Defeated, Tenn.—(Age 39. Born Spring City, Tenn.)—Jan. 1908 to Dec. 1909 Surveyor of land, coal mines and tramways for J. W. Scott, Harriman, Tenn.: Dec. 1909 to June 1912 Instrumentman and Res. Engr., Kentucky & Tennessee Ry., Stearns, Ky., on location and construction, trestle and bridge (10) design: July to Nov. 1912 Engr., Oneida Western Ry., location, in charge of field work, preliminary survey and location: Nov. 1912 to April 1916 Surveyor, U. S. Engr. Dept.,

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Nashville, Tenn., Levelman, Transitman and Topographer and mapping: April to Dec. 1916 overseeing residence construction, superintending work (private): Jan. to June 1917 Engr., Morgan & Fentress Ry., Catoosa, Tenn., building railroad, designing trestles, bridges and coal tipplers, chutes and inclines: July 1917 to April 1918 County Engr., Morgan County, Tenn., in charge of location and construction of macadam roads, designing culverts: May to June 1918 Engr., private practice, mining engineering, making surveys, designing and building tipplers: July 1918 to July 1919 Inspector, U. S. Engr. Dept., acted as Engr. on lock and dam construction, in charge of field party locating and drilling lock site, building levees: July 1919 to date U. S. Jun. Engr., same Dept., at Nashville, Engr. and in charge of lock construction. (Active practice 15 years: Res. Ch. 8.5: Design 2.4). Refers to H. A. Hickman, C. W. Kutz, R. B. McWhorter, J. R. Slattery, J. S. Walker.

McDONOUGH, JOHN HENRY—510 Sixty-first St., Brooklyn, N. Y.—(Age 35. Born Brooklyn, N. Y.)—1905 to 1910 (5 years) Axeman, Rodman, Transitman, etc., surveys and construction, Brooklyn Rapid Transit R. R. Co.: 1910 to 1912 (2 years) Transitman, Draftsman, and Inspector on pile-driving and trestle work, Grade Crossing Office, New

(1) York Central & Hudson River R. R.: 1912 to 1913 (1 year) Asst. Supt., pile-driving, bridge construction, with Philip Eld, Contr., Cincinnati, Ohio: 1913 to 1916 (4 years) Asst. Supt. on steam shovel and crane work, railroad construction, Walsh Constr. Co., Davenport, Iowa: 1916 to 1917 (1 year) Foreman, foundation and building construction, with Hunkin-Conkey, Cleveland, Ohio: 1917 to 1919 (2 years) Sergeant, U. S. Army, with 16th Engrs., in France: 1919 to 1921 (2 years) Engr. on highway construction and erecting falsework for bridges, Dept. of Public Works, Santo Domingo: 1921 to date (2 years) member of firm, McDonough & Moore, contracting, on construction of brick and frame houses, Brooklyn, N. Y. (Active practice 19 years: Res. Ch. 9). Refers to N. Benedict, T. L. Huston, J. Lucey, G. S. Rinehart, L. H. Walker.

McPHAIL, DONALD STUART—United Fruit Co., Eng. Dept., Puerto Barrios, Guatemala—(Age 29. Born Tulloch, Jamaica.) (B. Sc. in Civ. Eng., McGill Univ., 1920).—May—Sept.

204 1914 Asst., Canada Geological Survey, Topographical Sec.: April to Nov. 1915 2d Lieut., Royal Garrison Artillery (British), Plymouth, England, coast defense fort and gunnery

(1) school: Nov. 1915 to June 1919 with Royal Engrs. (British) finally as Capt.; took course at School of Mil. Eng., Chatham, England, with Expeditionary Force, France and Belgium, tunnelled dugouts, concrete, observation posts and machine gun emplacements, etc., construction of steel aerodrome hangars, light railways, artillery schools, sawmills, pipe-lines, etc.: May to Dec. 1920 Asst. Engr., Fraser, Brace, Ltd., on construction of hydro-electric power plant (4500 h. p.) and canal (approx. 600 ft. long), laying out and checking work, estimating quantities, etc.: July 1921 to Jan. 1922 Senior Asst. Jamaica Govt. Ry., on reconnaissance and preliminary surveys for 18-mile extension: May 1922 to date Asst. Engr., United Fruit Co., Guatemala Div., on railway construction, land drainage, reconnaissance surveys in the forests and general land surveys. (Active practice 6.3 years: Res. Ch. 2). Refers to J. H. Brace, H. M. MacKay, G. G. Underhill. (Applies in accordance with Sec. 1, Art. 1, of the By-Laws.)

MEAD, THOMAS MARION—Colfax, Wash.—(Age 35. Born Bolivar, Mo.) (B. S. in C. E., Wash. State Coll., 1914).—Sept. 1912 to June 1913 (spare time while at college)

205 Instrumentman on paving at Pullman, Wash.: June to Oct. 1913 Chairman and Rodman, Washington State Highway Dept.: June to Sept. 1914 Rock Inspector for County Engr.

(12) Spokane County, on macadam roads: Sept. 1914 to April 1916 Inspector, Washington State Highway Dept., on concrete work and Instrumentman on location and construction of highways: May 1916 to Jan. 1919 Deputy County Engr., Whitman County, in charge of field party on road surveys and land surveying: Jan. 1919 to date County Engr., Whitman County, in direct charge of design and construction of all roads and bridges built under contract (about \$1500 000 worth). (Active practice 8.6 years: Res. Ch. 6.7: Design 1). Refers to H. S. Baker, H. J. Doolittle, B. J. Garnett, W. L. Morgan, J. L. Thayer, O. L. Waller.

MEIERS, GEORGE RUDOLF—40 Boulevard St., Mittineague, Mass.—(Age 27. Born Bennington, Vt.)—1914 to 1918 student, Ohio Northern Univ.: Feb. to Dec. 1918 with

206 Engineers' Reserve Corps, U. S. Army, as Instructor in Mathematics at Ohio Northern Univ., Ada, Ohio: Oct. 1919 to May 1920 with Windsor Print Works, North Adams,

(2) Mass., designing minor structures and remodeling washing plant, design of machinery: May 1920 to date Res. Engr., Dept. of Public Works, Div. of Highways,

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Commonwealth of Massachusetts, on construction of highways (concrete-macadam) and drainage details. (Active practice 3.2 years: Res. Ch. 2.7: Design 0.6). Refers to A. W. Dean, H. B. Drowne, J. A. Johnston, O. E. Parks, W. W. Parks.

MILLER, RANDOLPH HELFENSTEIN—1719 Real Estate Trust Bldg., Philadelphia, Pa.—(Age 47. Born Philadelphia, Pa.)—Nov. 1891 to March 1896 Student and Draftsman 207 with Edwin F. Bertollett, Archt., Philadelphia; April 1896 to March 1899 Draftsman, Structural Steel Designer and Inspector with John A. Patterson, Civ. Engr., Philadelphia, (4) drafting, designing and inspecting structural steel for buildings, such as Stephen Girard Office Bldg., Jefferson Hospital, Philadelphia Savings Fund, P. A. B. Widener's House, etc., Philadelphia; March to April 1899 Structural Steel Designer with Edgar V. Seeler, Archt., Philadelphia, especially on design of steel arches, roof and gallery construction for 1st Baptist Church, Philadelphia, including central dome and lantern (diameter 60 ft.); April 1899 to date Structural Engr., Frank C. Roberts & Co., Philadelphia; Prin. Asst. Engr. to Frank C. Roberts since July 1917; designing structural steel, foundations, floors, etc., for office buildings, warehouses, iron and steel plants in United States, Canada and Europe, also bridges, trestles, docks, etc.; in general charge of architectural and structural design, also mechanical and electrical equipment of buildings, including specification writing in each case; design buildings and their equipment. (Active practice 31 years: Res. Ch. 21.6: Design 9.4). Refers to F. L. Castleman, O. H. Gentner, Jr., C. F. Mebus, F. C. Roberts, P. M. Sax, H. A. Schofield.

MILLIKEN, MAHLON GEORGE—Hercules Powder Co., Wilmington, Del.—(Age 32. Born New Hamburg, N. Y.) (B. S., Rutgers Coll., 1913)—June to July 1913 Road Surveyor 208 for Larson & Fox, Perth Amboy, N. J.: July 1913 to May 1915 Engr. for James C. Harding, New York City, on design and supervision of construction on water-works and (4) sewage disposal: May to Oct. 1915 Engr., T. A. Gillespie Co., New York City, on construction of smokeless powder plant at Parlin, N. J.: Oct. 1915 to date Constr. Engr., Hercules Powder Co., Wilmington, Del., on design and erection of all classes of industrial structures, including water works, sewage disposal, railroad improvements, steam, electric, and hydraulic lines, as well as power-house and general mill construction; has had active supervision over work amounting to about \$8 000 000. (Active practice 9.5 years: Res. Ch. 5.5: Design 3.5). Refers to A. B. Fox, W. B. Fuller, G. S. Hook, M. F. Larson, S. A. Stephenson, Jr.

MOORE, JAY DEWITT—135 West 81st St., New York City—(Age 40. Born Macon, Mo.)—1905 to 1911 (6 years) Jun. Engr., U. S. Reclamation Service; Chf. of Party on location of canals and laterals, and topographic work; Asst. to Div. Engr. on construction of siphons, flumes, dams, canals and miscellaneous structures: 1911 to 1912 (1 year) (1) Chf. of Party on location of 70-km. of railroad, Dept. of Public Works, Santo Domingo, Dominican Republic: 1912 to 1913 (1 year) Div. Engr., Rio Medina Irrigation Co., San Antonio, Tex., in charge of construction of a division of an irrigation project: 1913 to 1916 (3 years) Engr., Agalteca Min. Co., Honduras, Central America, exploration of iron ore fields, tunneling and sinking shafts and investigation of hydro-electric power project: 1917 to 1918 (1 year) Engr., Cerro de Pasco Min. Co., Peru, in charge of mine surveys and track work: 1918 to 1919 (1 year) Capt., Engrs., U. S. Army: 1919 to 1921 (2 years) Res. Engr., Dept. of Public Works, Santo Domingo, in charge of construction of 40-km. of macadam highway, with concrete bridges and structures, etc.: 1921 to date (1½ years) member of firm, McDonough & Moore, contracting business, New York City, construction of houses. (Active practice 16.5 years: Res. Ch. 8: Design 1). Refers to N. Benedict, J. Lucey, G. S. Rinehart, W. Rowland, L. H. Walker.

NADEL, LOUIS—1182 Clay Avenue, New York City—(Age 26. Born New York City) (B. S., 1918, and C. E., 1920, Columbia Coll.)—July to Dec. 1919 and Feb. 1922 Draftsman 210 man and Designer with Samuel O. Miller, Cons. Engr., drafting and designing on structural steel for buildings: July 1920 to Jan. 1921 Draftsman in office of Engr. of Structures, New York Central R. R. Co., drafting, designing and estimating on railroad and highway bridges and other railway structures: July 1921 to Feb. 1922 Inspector of iron and steel construction for Bureau of Bldgs., New York City: March 1922 Draftsman, Dept. of Eng. and Equipment, The Texas Co., on gasoline and oil stations, oil tanks, pipe-lines, etc.: April 1922 to date Asst. Supt. of Constr., J. H. Taylor Constr. Co., New York City, building construction. (Active practice 2.4 years). Refers to A. H. Beyer, J. K. Finch, H. B. Gates, E. B. Lovell, S. O. Miller, D. B. Steinman.

FOR ADMISSION

NELSON, JAMES POYNTZ—Richmond, Va.—(Age 73. Born Staunton, Va.) (C. E., and M. E., Wash. Coll., 1869.)—July 1869 to May 1873 Rodman, Asst. Engr., and Res. Engr. 211 on location and construction and Clerk to Engr. M. of W., Chesapeake & Ohio Ry.: 1873 to 1880 teaching in Georgia, Kentucky and at Kenyon Coll., Ohio: Oct. 1880 to (5) Jan. 1883 Res. Engr., C. & O. Ry., in charge of construction from Huntington, W. Va., to Ashland, Ky., and building bridge over Big Sandy River, also Div. Engr. on location and construction, Richmond to Williamsburg, Va.: 1883 to 1886 Supt., Danville & New River R. R., also Asst. Engr., Lehigh Valley Ry., in charge of work at Perth Amboy, N. J.: April 1886 to Jan. 1889 Asst. Engr., C. & O. Ry., in charge of location and construction of branch lines and Thurmond (New River) Bridge: Jan. 1889 to summer 1891 Chf. Engr., Eastern Div., Newport News & Mississippi Valley Co. (now Lexington, Ky., Div., C. & O. Ry.): 1891 to 1897 Dean of Civ. Eng., Kentucky State Coll.: 1898 to 1899 Bridge and Office Engr., Choctaw & Memphis R. R., and built bridge across Arkansas River at Little Rock, Ark.: Aug. 1899 to Aug. 1902 Engr. in charge of location and construction, C. & O. Ry.: 1902 to 1903 Chf. Engr., Richmond, Fredericksburg & Potomac R. R. Co.: April 1903 to 1913 Engr. of Real Estate Dept. and Real Estate Agt., and 1913 to date Valuation Engr., C. & O. Ry. Co. (Active practice 45.8 years: Res. Ch. 27.8). Refers to C. S. Churchill, H. Frazier, C. Hansel, E. M. Hastings, D. W. Lum, F. Molitor, C. L. Ruffin, C. Silliman, H. R. Talcott, E. F. Wendt.

NICHOLSON, HORACE BOULDEN—2121 Porter St., Philadelphia, Pa.—(Age 29. Born Philadelphia, Pa.) (B. S. in C. E., Univ. of Pa., 1914.)—July to Sept. 1914 Transitman, 212 Pennsylvania Salt Co., Philadelphia, Pa., surveying and mapping industrial plant: Sept. 1914 to Dec. 1916 Draftsman, Bureau of Surveys, Philadelphia, computing lines and (4) grades of city streets, drafting city plans: Dec. 1916 to April 1917 Draftsman, Bridge Div., Philadelphia & Reading Ry.: April to Nov. 1917 Draftsman, McClintic Marshall Constr. Co., Pottstown, Pa., detailing structural steel for bridges and buildings: Nov. 1917 to June 1918 Draftsman, F. C. Roberts & Co., Philadelphia, drafting and design on mill buildings, reinforced concrete and structural steel for steel plant, Sagunta, Spain: June to Aug. 1918 Draftsman, Hull Div., Philadelphia Navy Yard: Aug. 1918 to July 1919 Draftsman on standardized steel ships, Merchant Shipbuilding Co., Chester, Pa.: July 1919 to Aug. 1922 Asst. Engr. with John T. Windrim, Archt., Philadelphia, in charge of detailed design of such structures as proposed 33-story office building for Fidelity Trust Co., Western State Penitentiary, main cell house at Bellefonte, Pa., 5-story reinforced concrete structure, Presbyterian Hospital, Philadelphia, sub-stations of Philadelphia Elec. Co. and Central Exchanges for Bell Telephone Co.: Aug. 1922 to date Designer with P. M. Sax, Cons. Engr., designing structural steel and reinforced concrete on such buildings as Girard Trust Co., Philadelphia. (Active practice 8.6 years: Res. Ch. 3.6: Design 4.2). Refers to P. S. Baker, H. C. Berry, H. W. Bosler, W. Z. Kline, M. G. Littlefield, P. M. Sax.

NISHIMURA, SHOICHI—35 Nassau St., New York City—(Age 26. Born Sugito-machi, Saitama-ken, Japan.)—1918 graduated from Sendai Higher Technical School, Japan: 213 April 1918 to Nov. 1921 in Civ. Eng. Bureau, Dept. of Home Affairs, Japanese Govt., on river improvement research work: Nov. 1921 appointed training student by Dept. of (1) Agricultural and Commerce of Japanese Govt.: Feb. 1922 to date Draftsman on bridge details with J. A. L. Waddell, New York City. (Active practice 4.6 years). Refers to N. Cosores, F. DeSchauensee, S. Hardesty, V. H. Hewes, J. A. L. Waddell, W. G. Williams.

NOYES, DONALD FRANKLIN—1608 Cleveland Ave., Charlotte, N. C.—(Age 34. Born Bellport, N. Y.) (B. S. in C. E., Clarkson Coll. of Tech., Potsdam, N. Y., 1912.)—July 214 to Sept. 1910 Chainman, and July to Sept. 1911 and July to Oct. 1912 Rodman, New York State Highway Dept., inspection of roads and pavements: Oct. to Dec. 1912 (10) Recorder, and Dec. 1912 to July 1914 Transitman and Topographer, Aluminum Co. of America, on preliminary surveys for hydro-electric development: July to Sept. 1914 in Designing Dept., with Hazen & Whipple, Cons. Engrs., New York City: Sept. 1914 to Feb. 1915 with J. N. Ambler, Cons. Engr., Winston-Salem, N. C., as Res. Engr. on paving and city improvement: Feb. 1915 to Oct. 1916 with Southern Power Co., Charlotte, N. C., until June 1915 as Topographer on preliminary surveys; then Chf. of Party on surveys for hydro-electric developments: Oct. 1916 to June 1921 Asst. Engr., Western Carolina Power Co., in charge of construction of Paddy Creek Dam (2 years) and of Catawba Earth Dam (8 months), Bridgewater Development, and of completing Linville River Dam and 26 000-h.p. hydro-electric development, including auxiliary spill-

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way, location and building of road, village improvements, etc. (last 2 years) : June 1921 to date with Bolton Constr. Co. of Marion, N. C., as Engr. and Gen. Mgr. having supervision of work and design of plant, highway, railroad, paving, municipal improvements and bridgework. (Active practice 10.3 years: Res. Ch. 7.9: Design 7.9). Refers to F. H. Cothran, T. A. Cox, Jr., T. D. Harris, K. E. Hendricks, A. C. Lee, W. S. Lee.

OLEARY, JOHN ELMER—50 Church St., New York City—(Age 35. Born Mason City, Iowa.) (B. S. in C. E., Iowa State Coll., 1910.)—March to Sept. 1906 Rodman, June 215 to Sept. 1907 Instrumentman, and June to Sept. 1908 Asst. Engr. in charge (most of time) of construction of concrete pavements, with City Engr., Mason City, Iowa: June (1) to Sept. 1909 Asst. City Engr., Mason City, in full charge of sewer construction; built 4 miles of various sizes of sewers: June 1910 to Jan. 1914 with Des Moines Bridge & Iron Co., until Aug. 1910 as Draftsman, at Des Moines, Iowa, on steel construction and municipal water plants; then Designer and Estimator, at Pittsburgh, Pa., on steel tanks, towers, standpipes, wireless towers, etc.; after Jan. 1912 Engr. on sales work: Jan. 1914 to date Contr. Engr. and Mgr., New York office, Pittsburgh Des Moines Steel Co. (successor to Des Moines Bridge & Iron Co.), in complete charge of contracting office; work comprises design, estimating, sales and construction of various classes of steel-work, particularly steel tanks and towers, standpipes, wireless towers, penstocks, etc. (Active practice 13.1 years: Res. Ch. 9: Design 13.1). Refers to G. L. Christy, E. W. Crellin, G. W. Fuller, B. B. Hodgman, G. A. Johnson, A. Marston.

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PARK, RICHARD—321 Customhouse, Portland, Ore.—(Age 39. Born Malden, Mass.) (U. S. Mil. Acad., 1907; Engr. School of Application, Washington, D. C., 1911.)—1907 became Second Lt., U. S. Engrs., from Sept. 1907 to Jan. 1908 Asst. to U. S. Dist. Engr., Boston, Mass.: Feb. 1908 to Aug. 1909 topographical surveying, including design (12) of land defense, field fortifications, vicinity mouth of Columbia River; Sept. 1909 to Oct. 1911 at Engr. School of Application, Washington Barracks, D. C.; Jan. 1912 to May 1913 fortification construction, Ft. Frank, Caraboo Island, Philippine Islands, including completion of concrete work on 14-in. gun batteries and 12-in. mortar batteries and bombproof quarters for garrison; May to Sept. 1913 Asst. Dept. Engr., Philippine Islands; Oct. 1913 to July 1914 in charge military surveys, Northern Luzon, Philippine Islands; Aug. to Nov. 1914 Commanding Officer, Co. L, 2d Bn. Engrs.; April 1915 to Jan. 1918 Asst. to U. S. Dist. Engr., San Francisco, Cal., Western Dept., U. S. Army, on supervision of military surveys, Northwestern California; Jan. to Aug. 1918 commanding Camp A. A. Humphreys, Va., organizing and training engineer regiments and directing work of engineer soldiers on narrow- and standard-gauge railroad construction and operations, road work, etc., in connection with construction of the camp; Sept. to Nov. 1918 Executive Officer, Camp A. A. Humphreys; Dec. 1918 to Sept. 1919 Constr. Engr., Camp Humphreys, and in charge of design and layout of proposed Engineer School and Coll. of Military Research, supervising and co-ordinating work of architects and engineers who prepared detailed plans and estimates for \$30 000 000 project; Oct. 1919 to July 1920 commanding 5th Engrs., U. S. Army; Aug. 1920 to date in charge 2d Portland, Oregon River and Harbor Dist., principal work being maintenance of a channel 300 ft. wide and 30 ft. deep in Columbia and Willamette Rivers below Portland by dredging (two 24-in. pipe-line and one sea-going hopper dredge) and regulating works (channel is 100 miles long with 27 miles of shoals); work involved study in connection with design of permanent works and operations of plant. (Active practice 14.6 years: Res. Ch. 12.3: Design 12.3). Refers to I. O. Baker, L. H. Beach, W. M. Black, W. G. Brown, F. M. Randlett, E. B. Thomson.

PARKER, FRANK STANLEY—280 Madison Ave., New York City—(Age 34. Born Brooklyn, N. Y.)—1910 to May 1917 Clerk to Bldg. Dept. Inspectors, Borough of the Bronx, 217 New York City, during 1914-1917 on repairs and alterations to public buildings under jurisdiction of Borough Pres.; designed and erected asphalt plant for Bureau of Highways: Feb. to Nov. 1916 (evenings) in office of S. J. Kessler, Cons. Engr., on design of reinforced concrete and steel structures: May to Nov. 1917 Supt. for August F. and Otto J. Schwartzler on construction of reinforced concrete garage (cost \$250 000) in New York City, also designed this structure: Dec. 1917 to May 1918 designed and superintended construction of 2-story reinforced concrete garage (\$60 000) in the Bronx for Morris & McVey, Attorneys for Gouverneur Morris Estate: June 1918 to Feb. 1919 Engr., Ettinger Contr. Co., Brooklyn, N. Y., on design and construction of reinforced concrete buildings: Feb. 1919 to Jan. 1920 Chf. Engr. for Louis Gold, build-

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ing construction, design and construction of reinforced concrete buildings (aggregate cost \$1 500 000) : Jan. 1920 to Oct. 1922 Cons. Engr., on design and construction of reinforced concrete buildings, 27 major operations (aggregate cost \$3 600 000) : Nov. 1922 to date member of firm, Parker & Shaffer, Engrs., New York City. (Active practice 7.5 years: Res. Ch. 5.7: Design 6.4). Refers to W. Ginsberg, H. S. Harding, C. Heilenday, L. G. Mertz, Jr., L. S. Moisseiff, I. O. Shaffer.

PATTERSON, ELLIOTT REMINGTON—100 Trolley St., Clarksburg, W. Va.—(Age 36. Born Harrisburg, Pa.)—Student in engineering, Univ. of Pennsylvania (2 years and two summer sessions) and Drexel Inst., Philadelphia, Pa. (1 year, also 4 years in night course) : June to Sept. 1903 Timekeeper, construction, Harrisburg Traction Co. : June to Sept. (6) 1906 Chainman, Pennsylvania R. R. : June to Sept. 1907 Rodman with Wm. H. Ford, Cons. Engr., Philadelphia : Sept. 1907 to June 1908 Office and Fieldman for J. P. P. Lathrop, Engr. and Contr., surveys, estimates, drafting, etc. : 1910 (4 months) Conduit Inspector, Bell Telephone Co., Philadelphia : Jan. 1911 to Jan. 1912 Chf. of Party and Draftsman, Philadelphia & Western Ry. Co., railroad and street railway construction, surveys, location, estimates, design of walls, culverts, track layouts, bridge abutments, revision of third rail construction : March to Dec. 1912 Inspector on paving, and Dec. 1912 to Nov. 1916 Eng. Inspector in charge of supervision of paving and highway construction, Bureau of Highways, Philadelphia : Nov. 1916 to Dec. 1917 Inspector and Promoter, The Barrett Co., Philadelphia, on inspection of roofs and promotion of coal-tar products in North and South Carolina, Georgia and Florida : 1918 to 1919 (1½ years) Chf. of Party with Albright & Mebus, Cons. Engrs., Philadelphia, surveys and miscellaneous construction in connection with war projects, housing and powder plants : 1919 (6 months) Township Engr., Abington Township, Pa., design, specifications and supervision of highway construction : Jan. 1920 to date Res. Engr. for Albright & Mebus, Philadelphia, in full charge of paving, sewer construction and bridge construction in Clarksburg, W. Va.; supervision of construction of five reinforced concrete bridges (over \$250 000), sewer construction (approx. \$150 000), paving and revision of street lines (approx. \$400 000). (Active practice 13.9 years: Res. Ch. 7.8: Design 2). Refers to D. D. Britt, H. K. Carpenter, W. F. Day, E. E. Duff, Jr., W. H. Ford, W. H. Kershaw, F. D. McEntee, C. F. Mebus, W. W. C. Perkins, A. R. Wilson.

PATTERSON, REGINALD HEBER—Hot Springs, Va.—(Age 35. Born Baltimore, Md.)—1908 received diploma from School of Civ. Eng., International Correspondence Schools : 219 Jan. to June 1906 Rodman and Draftsman, McKell Coal & Coke Co., Kilsyth, W. Va., surveys, tipple and power plant design : Jan. 1907 to Sept. 1908 Asst. on Engr. Corps, (5) Baltimore Div., Baltimore & Ohio R. R., M. of W. Dept.; Jan. 1908 transferred to Philadelphia Div. as Asst. Engr., main line road-bed reconstruction, including several large bridges : Sept. to Dec. 1908 Asst. Engr., Salisbury, Md., sewerage and street paving for T. C. Hatton, Cons. Engr., Wilmington, Del. : Dec. 1908 to June 1909 Constr. Engr., Interstate Eng. Co., Philadelphia, in charge of construction, Metropolitan Elec. Light & Power Co.'s plant at Reading, Pa. : June 1909 to April 1910 Asst. Engr., at Pensacola, Fla., on water supply, sewerage and street paving, design and construction, for T. C. Hatton : April 1910 to Oct. 1916 Asst. Engr., City Engr.'s Dept., Baltimore, Md., June 1910 transferred to Harbor Board of Baltimore, successively Office Engr., Engr. of Surveys, and Constr. Engr., Triangulation, topographic and hydrographic surveys, reinforced concrete pier and bridge design and construction : Oct. 1916 to date (except June 1917 to April 1918) Res. Engr. (1916-1917), Chf. Engr. (1917-1920) and Cons. Engr. (1920 to date), Virginia Hot Springs Co., Hot Springs, Va., and New York City, Hotels and Public Service Corporation, \$6 000 000 estate, 10 000 acres, three hotels, including The Homestead, three towns, every modern utility; fourteen sub-departments, including civil, mechanical, architectural and forestry, under office of Cons. Engr. : June 1917 to April 1918 with U. S. Army, as Capt., Engrs., U. S. R., at Camp Lee, Va., and on staff of Chf. of Engrs.: Certified Professional Engr., State of Virginia. (Active practice 15.4 years: Res. Ch. 13.1: Design 8.6). Refers to A. M. Brosius, R. K. Compton, T. C. Hatton, W. D. Janney, O. F. Lackey, E. B. Whitman.

PEIRCE, WALTER ANDERSON—Delavan, Wis.—(Age 34. Born Polo, Ill.)—Oct. 1908 to June 1911 and part of time during 1914 and 1915 student, San. Eng. course, Univ. of 220 Wisconsin: summer 1909 (about 3 months) Lathe and Milling Machine Operator on commutators in shops of Northern Elec. Works, Madison, Wis.: summer 1910 (about (7) 3 months) student, Univ. of Wisconsin Eng. Summer School Survey: summer 1911 in

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private practice, lot surveying and mapping, also on similar work and topographic mapping for R. S. Owen, Instructor, Univ. of Wisconsin: Jan. 1912 to Jan. 1916 City Engr., Columbus, Wis., in full charge of design and construction of sidewalks, pavements, sewers and bridges; jointly with Supt., Water and Light Plant, on reconstruction of street lighting system and power plant additions (total value of work over \$65 000): Jan. to June 1916 Draftsman, Green Bay & Western R. R., at Green Bay, Wis.: June 1916 to Jan. 1917 with W. F. Reichardt, Cons. Municipal Engr., as Res. Engr. on pavement and sewer construction at Washburn and Park Falls, Wis.; alternated with Mr. Reichardt on pavement and sewer work at Clintonville, Wis. (total value of work over \$70 000): Jan. 1917 to Jan. 1918 Chf. San. Engr. for Mr. Reichardt on general municipal engineering work in a number of Wisconsin municipalities, especially sanitary works (total value of work over \$110 000): Jan. 1918 to Jan. 1919 in private practice with Mr. Reichardt as Cons. Municipal Engrs. for a number of Wisconsin cities, work especially sanitation; had full charge of office work and establishment of office standards (total value of work over \$110 000); and Jan. to April 1919 Chf. San. Engr. for Mr. Reichardt on completion of this work: April 1919 to date City Engr. of Delavan, Wis., in full charge of design and construction of pavement, sewers, water-works, complete sewage treatment works; also private practice in cities of the county, surveying and platting lands, designing and constructing sanitary works (total value of work over \$200 000). (Active practice 11.6 years: Res. Ch. 10.3: Design 10.3). Refers to C. M. Larson, D. W. Mead, W. E. Miller, L. S. Smith, M. W. Torkelson, L. F. Van Hagan.

PHELAN, JOHN GERALD—1836 Noble Ave., Bridgeport, Conn.—(Age 30. Born Bridgeport, Conn.)—1913 graduated from Pratt Inst., School of Architectural Construction: July to 221 Nov. 1913 and April to Sept. 1914 Inspector, Dept. of Public Works, Bridgeport, Conn., on concrete and wood block paving work: Sept. 1914 to Feb. 1916 Clerk of Works or (2) Inspector, Board of Education, Bridgeport, inspection of building and equipment of high school building (cost approx. \$1 000 000): April 1916 to date Draftsman, Field Engr. and Engr., Fletcher-Thompson, Inc., Industrial Engrs., Bridgeport, structural engineering work, building mostly industrial plants; several years and at present in charge of all construction in field, also does some structural and architectural designing in office: at present also a Bldg. Commr. of City of Bridgeport. (Active practice 9.1 years: Res. Ch. 2.5: Design 1.5). Refers to F. L. Black, E. A. Lambert, J. A. McElroy, G. H. Preston, F. O. Price, A. H. Terry, C. B. Wigton.

POYNER, THOMAS MILTON—Box 908, Savannah, Ga.—(Age 36. Born Poplar Branch, N. C.) (B. E., N. C. State Coll. of Agri. and Eng., 1908)—April 1909 to April 1910 222 Rodman, Seaboard Air Line Ry.: April to Aug. 1910 Topographer, Coal & Coke R. R.: Aug. 1910 to April 1911 Rodman, Western Maryland R. R.: April to July 1911 Trans- (10)man, Piedmont Northern Ry.: Aug. 1911 to Aug. 1917 Asst. Engr. and Div. Engr., W. R. Bonsal Co., Hamlet, N. C., and Jefferson Constr. Co., Charleston, S. C., 4 years in charge of field party and Res. Engr., 2 years Div. Engr. on construction of S. A. L. Ry. from Charleston, S. C., to Savannah, Ga.: Aug. 1917 to March 1919 Capt., Engrs., U. S. Army, after Jan. 1918 in command of company: May 1919 to March 1920 Locating Engr., North Carolina State Highway Comm., in charge of locating party on Federal Aid surveys: March to June 1920 Constr. Engr., West Constr. Co., in charge of plant layout: June 1920 to Feb. 1921 Constr. Engr., Jefferson Constr. Co., in charge of layout and construction of fertilizer plant: Feb. 1921 to Oct. 1922 Supt., Constr., Gadsden Contr. Co., substructures of bridges on the highway from Savannah to Tyhee: Oct. 1922 to date Res. Engr., Southern Power Co., on extension of Mount Holly Steam Plant. (Active practice 13.1 years: Res. Ch. 10.5). Refers to J. L. Becton, F. H. Cothran, R. R. Eagle, G. M. Gadsden, R. E. Snowden.

PRICE, FREDERICK SOMERS—1112 King St., Wilmington, Del.—(Age 37. Born Camden, N. J.) (B. S. in C. E., Del. Coll., 1907.)—June 1907 to Feb. 1922 associated with his 223 father, Francis A. Price, Wilmington, Del., on surveying and engineering work, including designing and laying off townsites, highway engineering from preliminary survey to (4) supervision and final acceptance, concrete design in bridges, culverts, retaining walls, etc.: Feb. to Sept. 1922 Asst. Engr. to P. L. Braunworth, Cons. Engr., Newark, N. J., designing townsites, surveying and supervising water-works construction: Sept. 1922 to Jan. 1923 in partnership with his father, on same work as from June 1907 to Feb. 1922. (Active practice 15 years: Res. Ch. 13: Design 13). Refers to P. L. Braunworth, W. A. Heindle, E. M. Hoopes, Jr., E. R. Mack, A. J. Taylor, S. N. Van Trump.

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RAMIREZ, REINALDO—P. O. Box 72, Quebradillas, Porto Rico—(Age 30. Born Cabo Rojo, Porto Rico.) (C. E., Cornell Univ., 1916.)—Aug. 1916 to Feb. 1920 with South Porto Rico Sugar Co., until Feb. 1918 as 2d Asst. Engr. on surveying, instrument work, maps, drafting and computing; then 1st Asst. Engr. on design and construction of concrete (1) houses, 800-ft. temporary wooden warehouse, concrete pumping station with pit 36 ft. deep, appurtenances for Sullivan Air Compressor and small irrigation canals, etc., taking data for concrete dam, and designing and computing: Feb. 1920 to July 1921 Judicial Administrator of Ramirez Estate: July 1921 to date Asst. Engr., Isabela Irrigation Service in charge of getting topographic and property maps of reservoir and dam site, on investigations for foundations of dam, hydrographic survey of a river; since Jan. 1922 in office on design work, estimating, drawing geological profile of dam sites and general work involving designing and detailing. (**Active practice 5 years: Res. Ch. 1.6.**) Refers to F. A. Barnes. (Applies in accordance with Sec. 1, Art. 1, of the By-Laws.)

REILLY, WALTER HENRY—177 Fairview Ave., Jersey City, N. J.—(Age 31. Born Jersey City, N. J.) (M. E., Stevens Inst. Tech., 1914.)—Aug. 1914 to July 1917 with 225 Dock Contr. Co., as Engr. and Asst. Supt. laying out and supervising subsurface, station, sewer, waterproofing and vault restoration work in connection with construction of Sub- (1) way between Bleeker St. and Union Sq., New York City: July 1917 to April 1919 Chf. Electrician, U. S. Navy: Nov. 1919 to Jan. 1921 with Hinkle Iron Co., New York City, as Engr. and Asst. Supt. laying out foundations and overseeing erection of structural steel for skyscraper buildings in New York City: Jan. 1921 to Nov. 1922 Supt., J. H. & R. Shannon Co., Jersey City, N. J., on concrete construction, particularly in connection with factory maintenance and extensions. (**Active practice 7.9 years: Res. Ch. 6.1.**) Refers to A. F. Barnes, J. J. Collins, R. A. McMenimen, W. V. McMenimen, H. H. Steinhauser.

RENO, SAMUEL HAROLD—Columbus, Kans.—(Age 20. Born Scammon, Kans.)—1919 to 1920 (5 months) Chainman, Missouri, Kansas & Texas Ry.: 1920 (3 months) Chainman 226 and Rodman with K. H. Hanger, Dist. Engr., Parsons, Kans., earthwork and maintenance: 1920 to 1921 (6 months) Chainman and Rodman with H. H. Jhontz, Engr. (15) M. of W., Parsons, maintenance: 1921 to date Instrumentman and Asst. County Engr. (over 1½ years), and Acting County Engr. (1 month), Cherokee County, Kans. (**Active practice 2.8 years: Res. Ch. 0.8.**) Refers to W. V. Buck, H. W. Crawford, K. H. Hanger, J. B. Hodgdon, L. R. Tillotson.

RHEINGANS, WILLIAM JACOB—234 Twenty-ninth St., Milwaukee, Wis.—(Age 24. Born 227 Jackson, Wis.) (B. S. in C. E., Univ. of Wis., 1920.)—Refers to D. W. Mead, (7) C. M. Scudder, L. S. Smith, F. E. Turneaure, L. F. Van Hagan.

RINEHART, VALDIMAR GILHAM—1191 East Ash St., Portland, Ore.—(Age 22. Born 228 Summerville, Ore.) (B. S. in Civ. Eng., Univ. of Wash., 1922.)—Refers to W. F. Allison, (12) I. L. Collier, C. C. More, J. C. Rathbun, H. K. Rubey.

ROGERS, IRA—Box 432, Garnett, Kans.—(Age 31. Born Lyndon, Kans.) (B. S., Kans. State Agri. Coll., 1918.)—May to Sept. 1910 Chainman, July 1912 to Aug. 1913 Valuation Rodman, Sept. 1913 to Aug. 1914 Chainman, Rodman and Inspector of grading and reinforced concrete, and March 1915 to April 1916 Chainman, Rodman and Chf. of Party, (15) on surveys, etc., all for Atchison, Topeka & Santa Fe Ry. Co.: May to Sept. 1916 Instrumentman, El Paso & South Western Ry. Co.: June to Sept. 1917 Chf. of Party, Empire Oil & Gas Co., pipe- and telephone-line surveys: May 1918 to Feb. 1919 Private and 2d Lieut., U. S. Army, with 14th Field Artillery Brigade, Camp Custer, Mich., training in heavy field artillery, Supply Officer, Motor Transport Officer: March to April 1919 Computer, Interstate Commerce Comm.: April 1919 to Oct. 1920 Asst. Engr., Board of County Commrs., Emporia, Lyon County, Kans., surveying and preparing plans for Federal Aid roads and bridges, in charge of party on concrete road construction: Oct. 1920 to date Res. Engr., Kansas State Highway Comm., in charge of Federal Aid bridge and road construction (16 miles grading and gravel surfacing complete, 4 miles under construction, a 50-ft. through girder, conc. completed, three 20 ft. or more under construction). (**Active practice 8 years: Res. Ch. 2.2: Design 0.5.**) Refers to C. M. Buck, L. E. Conrad, F. W. Epps, F. F. Frazier, L. P. Scott, L. R. Tillotson, M. W. Watson.

RUDDY, JOHN ALOYSIUS—49 Lafayette St., New York City—(Age 41. Born Scranton, Pa.) (B. S., St. Thomas Coll., Scranton, Pa.; C. E., Lehigh Univ., 1905.)—1905 to 230 1909 (3½ years) Rodman, Levelman and Chf. Draftsman, on construction, maintenance,

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surveys and estimates, Delaware, Lackawanna & Western R. R., at Scranton, Pa.: 1909 (1) to 1914 (3½ years) Asst. Engr., Board of Water Supply, New York City, on construction of Catskill Aqueduct, in charge of field work and office work on cut and cover tunnel and pipe construction: 1914 to 1918 (4½ years) with Public Service Comm., New York City, as Sec. Engr. in charge of elevated railroad construction in Bronx and subway construction in Brooklyn: 1919 (1 year) Gen. Supt., Intercontinental Constr. Corporation, in charge of subway section in Brooklyn: 1920 (3 months) Asst. to Gen. Supt., Booth & Flynn, Inc., on section of subway in New York City: 1920 to date (2¾ years) Asst. Engr., Transit Comm., New York City, in charge of triangulation of Narrows and surveys for Staten Island Tunnel, also preparation of maps; in charge of valuation of Manhattan & Interborough R. R. properties. (Active practice 15.7 years: Res. Ch. 13: Design 1). Refers to H. J. Alexander, A. E. Clark, E. G. Haines, G. J. Ray, R. Ridgway, J. F. Sanborn, C. D. Seale, W. F. Stevenson.

RULAND, WILLIAM CLAY—3 Washington Ave., Cobleskill, N. Y.—(Age 35. Born Jefferson, N. Y.)—2 years student, B. E. course, Union Univ.: July to Sept. 1910 Eng. Asst., 231 New York State Barge Canal; Chainman with survey party: July 1911 to Jan. 1915 Chainman, Rodman and Leveler, State Engr.'s Dept., New York, Barge Canal, at (3) Canajoharie, Utica and Little Falls, inspection concrete work, hydraulic and diper dredge work, rock excavation, surveys; 6 months in charge field party on construction contract: April 1915 to date with New York State Highway Dept. as follows: April 1915 to April 1916 Leveler, inspection of contract work, staking out work and in charge of party making original surveys, office work on estimates and design; April 1916 to Dec. 1917 in charge of two highway contracts (\$74 240, nearly 7 miles water bound and bituminous macadam), office work on original estimates, final estimates and design; Dec. 1917 to July 1919 Jun. Asst. Engr. on maintenance and repair work, auditing accounts and preparing plans for reconstruction contracts; since July 1919 Asst. Engr. in charge of construction, maintenance and repair, until April 1920 in Sullivan County, repair contract 2½ miles (\$42 500), construction contract over 4 miles (bituminous macadam); since then in Schoharie County, also maintenance and repair in eastern part of Otsego County, maintenance including waterbound and bituminous macadam, concrete, brick, etc. (cost about \$50 000 a year) (construction in 1920 over 3¾ miles concrete, \$149 000, in 1921 over 4½ miles bituminous macadam, \$160 000, in 1922 under contract over 19¾ miles bituminous macadam and concrete totaling \$522 600); investigations and reports on future projects total about 32 miles of country highways and village streets of concrete, bituminous macadam and Topeka; also design and construction of highway bridges (up to 48-ft. span, concrete and steel). (Active practice 11.6 years: Res. Ch. 5.9: Design 3.2). Refers to C. T. Fisher, E. A. Lamb, G. I. Oakley, A. T. Paine, H. E. Smith.

SANTELmann, ALFRED WILLIAM—1027 E. Huron St., Ann Arbor, Mich.—(Age 25. Born Washington, D. C.) (B. S. E., Univ. of Mich., 1923.)—June to Sept. 1922 Inspector 232 with C. A. Melick on design and inspection of bridge construction: refers to J. H. Cissel, (7) L. M. Gram, H. W. King, H. E. Riggs, C. Van Eenenaam, C. O. Wisler.

SCOTT, GARRETT WILLIS—Big Stone Gap, Va.—(Age 40. Born Gordonsville, Va.)—1902 to 1903 (1 year) tracing mechanical drawings in office of Morrison & Kindewater, Richmond, Va.: 1903 to 1905 (1½ years) Rodman, Cleveland & Ohio Ry.: 1905 to 1906 (1½ years) Rodman, Western Maryland Ry., instrument work, etc.: 1906 to 1909 (5) (3½ years) Transitman, S. & W. R. R. Co.; later Gen. Utility man; at times acted as Locating Engr., Res. Engr., Tunnel Inspector, Masonry Inspector and finally finished a residency: 1909 to 1911 Res. Engr., Virginia State Highway Comm.: summer and autumn 1910 on leave of absence; built streets, sidewalks and municipal building for Big Stone Gap, Va.: 1911 to 1913 (2 years) Chf. Engr., Highway Comm. of Cherokee County, N. C., located and constructed about 25 miles of highways and several highway bridges; paved streets of Town of Murphy, N. C.: 1913 to 1915 (2 years) County Engr., Wise County, Va., highway location and construction: 1915 to 1916 (1 year) County Engr. and Supt. of Roads, Bell County, Ky., highway location and construction, location and erection of nine highway bridges (50 to 300 ft. long); directed design of substructure: 1916 to 1917 (1 year) County Engr. and Supt. of Roads, Wise County: 1917 to 1918 (1 year) Supt., Virginia Banner Coal Corporation, Trammell, Va., constructed railway siding, power plant, tipples and opened coal mines: 1918 to 1919 Supt., Corbin Hall Farm (6 months); Supt. on construction of reservoir dam for Cumberland Water

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Co. (6 months) : 1919 to date (3 years) member of firm, Sneed, Trinkle & Scott, Gen. Contrs.; Feb. 1921 incorporated under name of Scotribed Corporation and acted as Pres. (name later changed to Scott & Trinkle) (these firms have done nearly \$1 000 000 worth of highway and other construction work). (Active practice 20 years: Res. Ch. 14: Design 7.5). Refers to F. H. Cothran, W. C. Hattan, H. W. Hudson, C. M. Hunter, C. L. Rufflin, J. E. Shepardson, R. B. Tinsley.

SHELDON, WILLIAM JOHN—Jordan Lane, Millvale, Pa. (Age 30. Born Millvale, Pa.)—4 years student in special work in Civ. Eng., Carnegie Inst. of Technology, School of 234 Applied Science (night course) : Sept. 1909 to Jan. 1914 Draftsman, American Bridge Co., Ambridge, Pa., detailing structural steelwork, buildings and bridges: Jan. 1914 to (6) Aug. 1915 Draftsman, Riter-Conley Mfg. Co., Leetsdale, Pa., checking structural steel-work and designing, buildings, tanks and blast furnaces: Aug. 1915 to Jan. 1918 Draftsman, H. Koppers Co., Pittsburgh, Pa., designing structural steelwork in connection with by-product coke ovens and benzol plants: Jan. to Dec. 1918 Pilot and Observer, U. S. Army, Air Service: Dec. 1918 to June 1919 Designer of by-product coke ovens and benzol plants and Estimator, H. Koppers Co.: June 1919 to June 1921 Structural Engr. for Sumner, Leigh & Sheldon, designing and supervising work of structural steel buildings and bridges, especially coal- and coke-handling equipment and buildings: June 1921 to Jan. 1922 Structural Engr., Lackawanna Bridge Co., Buffalo, N. Y., in charge of designs and details of buildings, bridges and dry docks: part of time Asst. Engr. on power plants and coal tipplers, Worden Allen Co.: Jan. 1922 to Feb. 1923 Structural Engr., The Dravo Contr. Co., Pittsburgh, designing structural steelwork for boats and buildings: at present Structural Engr., Worden Allen Co. of Milwaukee, Wis., in complete charge of theatre building. (Active practice 13.6 years: Res. Ch. 3.7: Design 7.4). Refers to R. N. Coolidge, G. M. Demorest, C. N. Haggart, H. R. Hortenstein, R. G. Manning.

SLATTERY, LAWRENCE JAMES—P. O. Box 130, Elmsford, N. Y.—(Age 39. Born Grand Rapids, Wis.)—March 1904 to Nov. 1909 Rodman, Instrumentman, Res. Engr. on construction, including designing, Trans-Continental Ry., Canada: Jan. 1910 to Nov. 1911 with National Rys. of Mexico as Transitman, in charge of locating party: Nov. 1911 to Nov. (2) 1912 with Pueblo (Mexico) Light & Power Co., in charge of location on transmission line: Nov. 1912 to Nov. 1913 with South Eastern Ry., Mexico, in charge of location and designing: Feb. to Dec. 1914 with A. M. Shaw, New Orleans, La., in charge of party on reclamation work: Jan. to Dec. 1915 with Cuyamel Fruit Co., Spanish Honduras, as Constr. Engr. on railroad construction: Jan. to Sept. 1916 with W. L. Stevens, New Orleans, in charge of party on highway construction: Jan. to Sept. 1917 with Cortez Oil Co., Mexico, in charge of location and construction: Sept. 1917 to Aug. 1919 1st Lieut., U. S. Engrs., Mexican border and France: Jan. 1920 to Feb. 1921 with Public Works Dept., Santo Domingo, as Res. Engr. and Supt. of Constr. on highway work: March to Dec. 1921 with Atlantic Fruit Co., Cuba, as Asst. Chf. Engr. on railroad location and construction: May-Aug. 1922 in charge of survey party for U. S. Eng. Dept.: Oct. 1922 to date Asst. Engr., New York City Board of Water Supply, Elmsford, N. Y. (Active practice 17.4 years: Res. Ch. 9.2: Design 3.8). Refers to N. Benedict, G. E. Lund, P. H. Myers, S. S. Neff, A. M. Shaw.

SMULLEN, EDWARD LOUIS—Englewood, N. J.—(Age 37. Born Tenafly, N. J.)—Sept. 1906 to Jan. 1909 Chaumian, Rodman and Transitman, New York Central R. R.: May 236 1909 to Jan. 1913 Engr. in Chg., W. P. McDonald Constr. Co., laying out work, making working plans, dock and highway construction: Jan. 1913 to Jan. 1914 Transitman, also (1) Chf. of Party with C. H. Eckerson, Englewood, N. J.: Jan. 1914 to April 1918 with City of Englewood as Chf. of Party in charge of field survey, making profiles, detailing for street, and drainage construction and resurvey of city: April 1918 to Jan. 1920 Inspector of highway construction, State Highway Comm.: Jan. to July 1920 Asst. Highway Engr., Bergen County, on preliminary surveys and plans for road improvement: July 1920 to Nov. 1922 City Engr. of Englewood, in charge of all municipal improvements. (Active practice 15.9 years: Res. Ch. 9.2: Design 5.6). Refers to H. W. Edwards, H. A. C. Hellyer, O. E. Hovey, T. Human, Jr., R. Schweizer, Jr.

STANSBERY, ERNEST EUGENE—1217 Park Ave., Little Rock, Ark.—(Age 29. Born Poplar Bluff, Mo.)—March-Dec. 1913 Axeman, Chainman and Rodman, C. A. Chapman 237 Eng. Co., Chicago, Ill.: March-Aug. 1914 Rodman, Chicago & Northwestern R. R. Co.:

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Sept. 1914 to May 1917 student, School of Eng., Univ. of Arkansas; June-Sept. 1916
(14) Draftsman, City Eng. Dept., Little Rock, Ark., making plots of lots, etc., also plans of street and sewer improvements, etc.: Aug.-Nov. 1917 Draftsman, Arkansas State Highway Dept., making plans and profile of road improvement districts, including cross-sections of cuts and fills, etc.: Sept. 1919 to date Res. Engr. for A. M. Lund, in responsible charge of construction of streets and highways, earth embankments, concrete culverts, concrete bridges (slab, girder and arch spans), steel bridges (beam, and through trusses), sheet asphalt on concrete base, asphaltic concrete on crushed stone and concrete bases, one course concrete pavement, penetration, waterbound macadam and gravel roads; at present supervising construction of 2 800-ft. reinforced concrete arch bridge over Arkansas River at Little Rock. (Active practice 6.9 years: Res. Ch. 3.4). Refers to G. D. Douglass, P. B. Hill, A. M. Lund, J. M. Robinson, R. G. Williams.

STETSON, EDWARD EVERETT—1754 Bryn Mawr Ave., Chicago, Ill.—(Age 40. Born Mattapoisett, Mass.) (S. B., Mass. Inst. Tech., 1904).—Sept. 1904 to June 1905 Asst. Instructor in R. R. Eng., Massachusetts Institute of Technology: June 1905 to May 1919 with Pennsylvania Lines West of Pittsburgh as follows: June 1905 to March 1909
(8) Leveler and Transitman, office of Chf. Engr.: March 1909 to Aug. 1916 Engr. in charge of track elevation at Pittsburgh, Pa., Columbus, Cincinnati and Dayton, Ohio; Aug. 1916 to Aug. 1918 Asst. Engr., office of Chf. Engr. M. of W., on special work, investigations, reports, etc.; Aug. 1918 to May 1919 Asst. Engr., Office of Chf. Engr. Constr., with general supervision of construction work: May 1919 to date Engr. of Constr., Chicago Union Station Co., in direct charge of all construction. (Active practice 17.7 years: Res. Ch. 10.2: Design 3). Refers to W. C. Cushing, R. W. Emmert, A. J. Hammond, L. J. Riegler, D. Y. Swaty.

STOLL, HAROLD DAVID—Dalton, Pa.—(Age 33. Born Dalton, Pa.)—June 1906 to Aug. 1909 Chainman, Chf. of Party and Transitman on preliminary and location surveys and
29 construction, Northern Elec St. Ry. Co., Scranton, Pa.: Aug. 1909 to Dec. 1912 Chf. of Party and Res. Engr. on construction, Scranton & Binghamton St. Ry. Co., Scranton:
(4) Jan. 1913 to Oct. 1914 Draftsman in Dist. 12, later on inspection work on highway construction, Pennsylvania State Highway Dept., Harrisburg, Pa.: Dec. 1914 to Jan. 1917 with County Engr. of Lackawanna County, Pa., as Asst. on survey work, townsite development and plans for and supervision of construction of small disposal plants: Jan. 1917 to May 1918 Chf. of Party in charge of field work connected with townsite development, Aliquippa & Southern Ry. Co. (subsidiary of Jones & Laughlin Steel Co., Woodlawn, Pa.): May 1918 to date with Pennsylvania State Highway Dept., Scranton, until March 1921 as Chf. of Constr. and Asst. Engr. in Dist. 12, then Acting Dist. Engr. and Dist. Engr., same district, in charge of construction and maintenance of highways (reporting to Chf. Engr. and Maintenance Engr.). (Active practice 16.4 years: Res. Ch. 1.9). Refers to A. E. Farrington, H. E. Hilts, H. S. Mattimore, P. M. Tebbs, W. A. Van Duzer.

SWART, REINIER JOSEPH—Box 775, Clarkdale, Ariz.—(Age 37. Born Baton Rouge, La.) (B. S., Ala. Pol. Inst., 1907).—June 1907 to Feb. 1908 Tapeman to Instrumentman,
240 Baton Rouge, Hammond & Eastern R. R.: Feb. 1908 to Aug. 1912 Asst. to his father, City Engr. and Civ. Engr., on street paving, sewer system, sidewalks, drainage and map
(11) of city of Baton Rouge, surveys and subdivisions: Aug. 1912 to Jan. 1915 Surveyman and Surveyor, U. S. Engr. Office, Vicksburg, Miss.; Instrumentman and Draftsman on surveys of Mississippi River, Asst. on revetment party, at U. S. Stone Quarry, and Beulah Crevasse: Jan. 1915 to Sept. 1916 in private practice as Civ. Engr. and Surveyor, city surveys, subdivision of city property, maps, drainage for districts, subdivisions and surveys: Sept. 1916 to Sept. 1917 Draftsman with Stone & Webster, on plans and maps of underground system for electric wires in business section of El Paso, Tex., also some track-work: Sept. 1917 to July 1921 Designer and Draftsman for A. G. McGregor on Cerro de Pasco Copper Co.'s and United Verde Copper Co.'s smelters, designed sewer and water systems, concrete work, water tanks, railroad trestles, foundations, retaining walls, track layouts and considerable drafting (cost of these reduction works over \$10 000 000): July 1921 to date Designer and Draftsman, United Verde Copper Co., structural steel, reinforced concrete, conveying machinery, checking structural steel and inspection (estimated cost, crushing plant, \$1 000 000). (Active practice 15.6 years: Res. Ch. 5: Design 5.3). Refers to C. N. Bott, R. M. Fox, G. C. Schoenberger, A. M. Todd, E. C. Tollinger.

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TAYLOR, NORTON LONGSTRETH—402 City Hall, Tacoma, Wash.—(Age 62. Born Philadelphia, Pa.)—1 year student, Univ. of Pennsylvania: June 1879 to Feb. 1881 and March 241 to Sept. 1882 Machinist Apprentice, Baldwin Locomotive Works: March 1881 to March 1882 Chairman, Topographer, Check-Levelman and Levelman, Texas-Mexican Ry. Co.: (12) Oct. 1882 to Sept. 1890 with Pennsylvania R.R. Co., as Draftsman, general office and field work (over 3½ years), Inspector of masonry on three large stone arches (5 months), Transitman, field work, drafting and estimates (7 months), and Asst. Engr. of Constr. (3 years) on 3 miles of 3d track, and Maurice River Branch, West Jersey R. R. (11 miles), with pile trestles and large wharf; levels on 800 miles, grading, and construction of coal stocking plant at South Amboy (100 000 tons); removing old work and rebuilding Pier No. 4 (60 by 300 ft.) at South Amboy; construction of Beck's Run and Street's Run Vladucts on Monongahela Div. (500 and 800 ft. long, 30 to 50 ft. high, masonry foundations, steel superstructures); change of one mile main line, Maryland Div.: Sept. 1890 to April 1891 with Tacoma Light & Water Co. as 2d Asst. Engr. on surveys, plans and estimates for new water supply, dam, reservoir and 41 miles of wood and steel pipe conduit (project abandoned): May 1891 to Jan. 1893 in private practice, surveys and estimates for mines, water-power projects, etc.: Jan. 1893 to Feb. 1895 with State of Washington as Computer of geographical positions, harbor lines and tide land areas and Draftsman on maps; 12 miles water front: March 1895 to Sept. 1897 with Northern Pacific Ry. Co. as Transitman, Draftsman in Tacoma office; also charge in field of change of line and grades in Montana: Sept. 1897 to April 1898 1st Asst. Engr., Chilkoot Ry. & Transport Co., on survey and construction of aerial tramway over Chilkoot Pass: April 1898 to Jan. 1904 City Engr., Tacoma, Wash., designed and constructed 3 000 ft. 31-in. wood stave pipe and connections, 5 000 ft. high-pressure cast iron main, numerous extensions (4 to 18 in.), 4 miles street paving, 12 miles concrete sidewalks, 45 miles trunk and lateral sewers; designed and built 4 500 000-gal. reservoir: Aug. 1904 to March 1907 Asst. Engr. in City Engr.'s office, Tacoma, designed enlargement of a reservoir, also new reservoir; designed and estimated several sewers, etc.: April 1907 to July 1908 Chf. Engr., Metropolitan Park Dist. of Tacoma, surveys and estimates on 20 miles of boulevard system (5 miles constructed): Aug. 1908 to date with Light Dept., Tacoma, until June 1916 as Engr. on surveys, estimates and bills of material for extensions; maps, office records and annual statistics of plant; then Senior Engr. on surveys, estimates and reports on eight hydro-electric power sites (20 000 to 100 000 h. p.) (3 years), surveys, estimates and plans to increase power of present plant (1 year); surveys, estimates and preliminary plans, Lake Cushman Power project (\$6 665 000) (nearly 2½ years); 120 000 h. p.; 6 months in 1917 Special Engr. for investigation of power sites offered the City. (Active practice 42.6 years: Res. Ch. 15.4: Design 9.3). Refers to S. D. Mason, G. L. Parker, W. C. Raleigh, J. C. Rathbun, W. J. Roberts, R. H. Thomson.

TILLMAN, FRANK ANDREW—23 Lewis St., Johnson City, N. Y.—(Age 34. Born Waverly, N. Y.)—March to June 1908 Chainman, Rodman and Topographer, Denver, Laramie & 242 Northwestern R. R.: Oct. 1908 to June 1909 (evenings and part of each day) studied mathematics and plain surveying: June to Sept. 1909 Rodman, Delaware, Lackawanna (3) & North Western R. R.: Sept. 1909 to June 1910 (evenings and part of each day) studied Mun. and Irrigation Eng. Constr. and Design; also continued as Rodman (4 months, 6 hours each day): June 1910 to June 1911 Transitman in charge of party on survey (65 000 acres), section line, irrigation ditch, fence line and building location, general development near Laramie, Wyo., 1 month coal mine surveys, Medicine Bow, Wyo., layout town of Milliken, Colo. (3 months): Aug. 1911 to Jan. 1913 Levelman (5 months), Draftsman and Computer (5 months), Goldsborough Eng. Co., on irrigation structures, lateral and canal layouts; and June 1912 to Jan. 1913 Levelman and Transitman, irrigation canal location and construction: Jan. to April 1913 Office Engr., Denver Realty Co., subdivisions and utilities: April to Sept. 1913 Chf. of Constr. Party on irrigation structures, canals and laterals, Goldsborough Eng. Co.: Sept. 1913 to Jan. 1915 Engr., Enalpac Oil & Gas Co., Casper and Cody, Wyo., pump house, refinery, derrick and pipe-line design, location and construction: July 1915 to March 1916 Instrumentman on preliminary surveys and location intercepting sewer, City of Binghamton: March 1916 to May 1917 Instrumentman on city work, city map and intercepting sewer: March 1917 to Sept. 1918 Asst. City Engr. of Binghamton, in charge of construction and design of intercepting sewer: Sept. to Dec. 1918 with U. S. Govt., Perth Amboy, N. J., housing project topography, utility and street layout: Dec. 1918 to April 1919 Transitman, City of Binghamton: April 1919 to Jan. 1920 Secy. to Comm. of

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Public Works and Supt. of Parks, office work and in charge of purchasing: Jan. 1920 to April 1921 Asst. Engr. with Hoadley & Giles, in charge of field parties, topographical, lot, trestle and building layouts, pipe-line and structure surveys, assisted in design of Johnson City water supply and designed the intercepting sewer, also proposed water system for Endicott and West Endicott, layout and planning of subdivisions, general engineer office computations and design: April 1921 to date Commr. of Public Works and Engr., Village of Johnson City, in charge of all public works utilities maintenance and construction, purchases, design of pavements, sewers and buildings, etc.: Licensed Prof. Engr. and Surveyor, State of New York. (Active practice 12.7 years: Res. Ch. 10.1: Design 3.7). Refers to L. E. Bishop, J. A. Giles, H. C. Hill, R. B. Hoadley, Jr., A. L. LaRoche, G. L. Robinson, W. E. Weller.

TOMLINSON, DANIEL ANDERSON—809 Simpson St., Evanston, Ill.—(Age 32. Born Detroit, Mich.) (S. B., Mass. Inst. Tech., 1912).—Sept. 1908 to July 1909 Draftsman, 243 Subway Div., Dept. of Eng., Chicago, Ill., on maps, plans, traffic studies, etc., for a subway report: June to Sept. 1910 Foreman on ditching for curb and gutter contractor (8) at Great Lakes (Ill.) Naval Training Station: June to Sept. 1911 Draftsman, Chicago & Western Indiana R. R., Chicago, Ill.: June 1912 to June 1917 (except Sept. to Dec. 1913 and June to Nov. 1916) Draftsman and Asst. Engr., C. & W. I. R. R., investigations and reports on many railroad subjects, as track elevation; yard and terminal design, construction, costs, and operation; freight handling; train movements; operating costs; real estate valuation, etc.; Sept. to Dec. 1913 with B. J. Arnold, Cons. Engr., Chicago, on work in connection with his report on terminal situation in Chicago; June to Nov. 1916 with Co. A Engrs., U. S. Army, at San Antonio, Tex., as Supply Sergeant; June 1917 to Jan. 1919 with U. S. Army, during construction of Camp Grant Ill., first as 2d Lieut., acting as Adj't. to Constructing Q. M.; at 2d Officers' Training Camp, Ft. Sheridan, Ill.; Nov. 1917 commissioned 1st Lieut., C. A. R. C.; at Ft. Monroe, Va., as Instructor in Railroad Artillery and Orientation at C. A. School; Sept. 1918 commissioned Capt., C. A.; prepared several bulletins and lectures: Jan. to March 1919 Mgr., Central Zone, Prof. and Special Sec., U. S. Employment Service, Chicago, organization of facilities for obtaining employment for engineers and other professional men from the Army and Navy; April 1919 to Feb. 1920 Asst. Secy., Am. Association of Engrs., Chicago, in charge of R. R. and Employment work: Feb. 1920 to date with Portland Cement Association, Chicago, until Dec. 1921 as Asst. Engr. in Technical and Structural Bureaus, on preparation of new technical and promotional booklets on concrete, distribution of literature, answers to technical inquiries, and managing lecture work; since Jan. 1922 Mgr., Railways Bureau, educational and promotional work on railway uses of concrete; wrote series of educational bulletins on similar work. (Active practice 11.4 years: Res. Ch. 7.9: Design 1.7). Refers to O. Bates, F. D. Chase, J. W. Johnston, E. H. Lee, C. F. Loweth, C. A. Morse, W. A. Rogers, C. M. Spofford, G. E. Warren.

TOPPING, HOWARD FRANKLIN—Riverside Hall, Gary, Ind.—(Age 22. Born San Francisco, Cal.) (B. S., Coll. of Civ. Eng., Univ. of Cal., 1922).—May to Aug. 1920 Surveyor, 244 Standard Oil Co. (Calif.), surveying, hydrographic, topographic, road and construction; Test Engr., calibration of flow meters, still tests: July 1922 to date Draftsman and Shop (9) Inspector, American Bridge Co., steel detailing, checking and inspecting. (Active practice 0.5 year). Refers to R. E. Davis, F. W. Dencer, C. Derleth, Jr., F. S. Foote, C. G. Hyde, A. F. Reichmann, E. J. Schneider.

TYRELL, HARRY EDWARD—718 Chemical Bldg., St. Louis, Mo.—(Age 40. Born Philadelphia, Pa.)—June 1901 to Jan. 1905 miscellaneous work, including 1 year as Apprentice, American Bridge Co., Constr. Dept., 1 year Transitman, Eastern Steel Co., and remainder of time on drafting work for C. R. Cook Machine Works and A. G. Box (14) Structural Steel Works, Philadelphia, Pa.: Jan. to April 1905 Draftsman, Pennsylvania R. R., Real Estate Dept., Philadelphia: April 1905 to April 1906 Leveler and Transitman, Philadelphia & Reading R. R.: April 1906 to April 1909 Transitman, 1909 to 1912 (3 years), Asst. Engr., 1912 to 1914 (2 years) Office Engr. and 1914 to 1915 (1/4 years) Superv. Engr., Southern Ry., Washington, D. C.: July 1915 to date Engr. M. of W., Western Dist., Southern Ry., St. Louis, Mo. (Active practice 21.5 years: Res. Ch. 10.7: Design 10.7). Refers to B. L. Brown, W. C. Curd, H. A. Metcalfe, H. J. Pfeifer, A. A. Woods.

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WALLER, LAURENCE JOHN—647 N. Occidental Boulevard, Los Angeles, Cal.—(Age 28.

Born St. Louis, Mo.) (B. S. in C. E., Univ. of Dayton, 1919.)—1914–1916 (1 year while 246 student at Univ. of Southern California) Instructor in Mech. Drawing, Shop Work and Physics, California Military Acad.: Sept. 1916 to Sept. 1917 Draftsman and Asst. Engr.

(11) American Smelting & Refining Co., at Hayden, Ariz., on structural and mechanical drafting and design, also experimental and research work on Cottrell smoke precipitation process for recovery of values from metallurgical smoke: Jan. to June 1918 Flying Cadet, U. S. Air Service, at Austin (Univ. of Texas), Camp Dick and Hicks Field, Tex.: June to Oct. 1918 2d Lieut., U. S. Air Service, Flight Commander and Eng. Officer at Hicks Field, Camp Dick and Love Field, Tex.: Oct. 1918 to Jan. 1919 post-graduate work at Massachusetts Inst. of Technology in Aeronautic Eng., Airplane and Airship Design, Aero Engines, Aerodynamic Laboratory, etc.: Jan. to July 1919 Research Dept., Headquarters Air Service, Technical Sec., McCook Field, Dayton, calculated theoretical airplane performance for new types of airplanes, calculated charts for ascertaining airplane performance graphically; wrote air Service publications; also student at Univ. of Dayton (part-time course): Aug. 1919 to April 1920 Mech. and Structural Designer, Southern California Edison Co., Los Angeles, Cal., on power plant and hydraulic machinery and equipment, power-operated valves, engine fittings, power-plant layouts, etc.: April to Sept. 1920 Constr. Engr., Goodyear Tire & Rubber Co., Los Angeles, Superintended installation of steam-heating and conditioning apparatus for factory: Sept. 1920 to July 1922 Structural Designer and Engr., Baker Iron Works, Los Angeles, on design of pressure and gravity tanks, tanks, towers, roof trusses, craneways, derricks, store buildings, warehouses, mill and office buildings, etc.; in charge structural design for 1st M. E. Church, Los Angeles (\$800 000): July 1922 to date Structural Engr. for John C. Austin, Archt., designing steel-framed balcony to seat 3 500 persons at Malaikak Temple (\$1 500 000). (Active practice 4.9 years: Res. Ch. 1.9: Design 3.5). Refers to M. C. Ayers, R. McC. Beanfield, E. W. Cunningham, B. Noice, A. J. Werner.

WEINRIB, JACOB JAY—408 Grove St., Brooklyn, N. Y.—(Age 22. Born New York City.) (C. E., Rens. Pol. Inst., 1922.)—June to Sept. 1920 Draftsman with H. A. Schwenesssen, 247 Cons. Engr., Jamaica, N. Y., on preliminary design and cost estimate of ore refining plant in Brazil: June to Sept. 1921 Transitman with E. L. Lavine, Civ. Engr., Warrensburg, N. Y., on surveys, computations and mapping: May to June 1922 Investigator with M. Rome, Troy, N. Y., investigation and building surveys, etc.: June to Aug. 1922 Engr., Lyon Eng. & Constr. Co., New York City, on design and construction of industrial buildings and garages, concrete design, estimating, planning, supervision, some residence work: Aug. to Oct. 1922 Designer and Draftsman, Conveying Weigher Co., New York City, design of conveying systems for handling ores, steel and timber design, steel detailing and cost estimating: Oct. 1922 to date Engr. with Werner Boechlin, Kew Gardens, N. Y., surveying, concrete and architectural design, miscellaneous engineering in connection with building projects, road and highway construction and supervision. (Active practice 0.5 year: Res. Ch. 0.4: Design 0.2). Refers to E. R. Cary, L. W. Clark, T. R. Lawson, W. P. Mason, P. C. Ricketts, W. W. Rousseau, G. S. Thompson.

WEIR, JOHN HOWARD—708 Bakewell Bldg., Pittsburgh, Pa.—(Age 42. Born in Washington County, Pa.) (C. E., Ohio Northern Univ., 1901.)—1901 to 1906 (5 years) with 248 W. G. Wilkins Co., Pittsburgh, Pa., on preliminary location and surveys, street railways, railroads and mineral land surveys, including office work, calculations and map work;

(6) construction of coal and coke plants, including estimates, design and details: 1906 to 1912 (6 years) Chf. Engr., Geo. S. Baton & Co., Pittsburgh, in charge of construction of coal and coke plants, preliminary surveys and location of railroads, street railways and mineral land surveys: 1912 to 1917 (5 years) Chf. Engr. of operations, Cascade Coal & Coke Co., Buffalo, N. Y.: 1917 to 1918 (1 year) Gen. Supt. of Mines, Ohio Collieries Co., Toledo, Ohio: 1918 to date (4 years) with A. D. Neeld, Cons. Engr., Pittsburgh, as Asst. Chf. Engr. on construction and designing of Liberty Tunnels, being built by Allegheny County in Pittsburgh. (Active practice 21 years: Res. Ch. 17: Design 3). Refers to J. T. Barr, G. S. Baton, L. P. Blum, J. W. Hershey, W. M. Judd, A. D. Neeld.

WELLE, EBERHARD—124 Trenton Ave., Lakeview, N. J.—(Age 35. Born Landsberg a/w, Germany.) (C. E., Columbia Univ., 1912.)—June 1912 to April 1913 Draftsman, with 249 Alexander Potter, Cons. Engr., New York City, on light design, drafting and estimating of sewerage systems, sewage-disposal plants and miscellaneous work: May to Dec. 1913 (4) Surveyor, United Fireproofing Co., New York City, in immediate charge of complicated surveying for construction of reinforced concrete mill and water power plant (7 500 h. p.).

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(reported to contractor and superintendent) : Jan. 1914 to April 1920 Draftsman, Interborough Rapid Transit Co., New York City, field and office investigation of strength of elevated and subway structures, with studies, designs, plans and estimates of cost of proposed reinforcing or renewal; designs and plans of track and yard buildings, additional yard structures and miscellaneous (reported to Engr. of M. of W.) : May 1920 to date Asst. Engr. and Asst. Designing Engr., New York State Bridge and Tunnel Comm. and New Jersey Interstate Bridge and Tunnel Comm., studies, investigations, designs and estimates for tunnel location, easements, contract and working drawings for construction of the vehicular tunnel with especial attention to design of ventilating shafts and subway construction, connected with Contrs. 1-6, the latter 1½ years directing designing squad as Asst. Designing Engr. (reported to Engr. of Designs). (Active practice 10.5 years: Res. Ch. 1.3: Design 9). Refers to O. L. Brodie, C. E. Carpenter, C. M. Holland, E. G. Mathews, G. H. Pegram, O. Singstad, R. Smillie.

WELLS, EDWARD HYDE, Jr.—475 East 29th St., Brooklyn, N. Y.—(Age 36. Born Utica, N. Y.) (C. E., Cornell Univ., 1910.)—July 1910 to July 1917 with Public Service Comm., 250 until April 1912 as Draftsman mapping municipal transit lines, subway design and elimination of grade crossings; then (3 years) Jun. Engr. in charge of field party laying (I) out lines and grade for subway construction, measuring quantities for estimates; after March 1915 Asst. Engr. in charge of field parties, office estimators and inspectors on station finish, subway construction, final estimates: July to Oct. 1917 Estimator, I. J. Stander, Inc., estimating bids on contract work: Oct. 1917 to Aug. 1919 Pvt., Sgt., 2d Lieut., 1st Lieut. and Capt., U. S. Army, Engrs.: Aug. 1919 to Oct. 1922 Asst. Executive, Marine Dept., Standard Oil Co. (N. J.), checking cost of ship repairs, supplies and general cargo shipments. (Active practice 12.3 years: Res. Ch. 2.3: Design 0.2). Refers to C. A. Hunt, B. Kipp, A. D. Prince, W. L. Selmer, B. F. Vandervoort.

WHITEHOUSE, FRANKLIN SCHENCK—137 Monterey Ave., Pelham, N. Y.—(Age 28. Born Brooklyn, N. Y.) (C. E., Princeton Univ., 1917.)—June 1917 to July 1919 Chf. 251 Electrician (Gen.), U. S. Navy: July 1919 to Feb. 1921 with Chicago Pneumatic Tool Co., New York City, factory, sales and office work: Feb. 1921 to date Jun. Auditor, (I) Federal Reserve Bank, New York City. (Active practice 5.5 years). Refers to G. E. Beggs, J. C. Brackenridge, R. G. Collins, Jr., F. H. Constant, C. C. Vermeule.

WILLIAMS, JAMES HAROLD—Box 51, McPherson, Kans.—(Age 27. Born Denver, Colo.) (B. S. in Civ. and Irrigation Eng., Colo. State Coll., 1917.)—June 1917 to Jan. 1918 252 Instrumentman, U. S. Reclamation Service, Sun River Project, priming and puddling canal on survey and construction of ditches and roads, measurement of water; installation (15) of weirs and irrigation structures, land subdivision: Jan. to June 1918 Asst. Townsite Engr., Tyrone, N. Mex., survey, design, construction of sewer and water systems, building construction, topographical and triangulation surveys: July 1918 to Jan. 1919 2d Lieut., Engr. Corps, U. S. Army: Jan. to April 1919 Asst. Engr., U. S. Reclamation Service, Denver, Colo., computations of hydrometric and storage data for 3 000 000 acre-ft. reservoir construction: April 1919 to May 1920 Engr. and Mgr. of 100 000-acre cattle ranch in Honduras, Central America; design, survey and construction of power ditch and pipe-line and Pelton wheel for sawmill, roads, concrete foundations; management of ranch: Aug. 1920 to Jan. 1921 Asst. County Engr., Monona County, Iowa, design and construction of reinforced concrete culverts and bridges; road location, construction and maintenance; ditch locations and construction: Jan. to Oct. 1921 Engr. on survey, design, and construction of drainage and irrigation districts; bridge design and construction: Oct. 1921 to June 1922 Instructor, Civ. Eng. Dept., Marquette Univ.: June 1922 to date Engr. in charge of survey and construction of city pavement, storm and sanitary sewers; design and construction of reinforced concrete culverts and bridges. (Active practice 4.8 years: Res. Ch. 3.6: Design 1). Refers to A. H. Ayers, F. A. Banks, J. C. Pinney, H. A. Rowland, C. P. Williams.

WOODCOCK, CHARLES FRANKLIN—51 North Ritter Ave., Indianapolis, Ind.—(Age 30. Born Lawrence, Mass.) (B. S., Dartmouth Coll., 1915; C. E., Thayer School of Civ. Eng., 1916.)—May to Sept. 1915 Rodman, Boston & Maine R. R.: April 1916 to May 1917 Jun. Asst. Engr., Public Service Comm., New York City, after July 1916 Shift (9) Engr. on shield tunnel work: May 1917 to Dec. 1918 2d and 1st Lieut., Engrs., U. S. Army, until Sept. 1917 at Plattsburg, N. Y., and Washington, D. C., with 15th New York Training Co.; Sept. to Dec. 1917 with 306th Engrs., Camp Jackson, Columbia,

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S. C.; then in France, from Jan. to Feb. 1918 with Co. F, 2d U. S. Engrs.; Feb. to March 1918 at 2d Corps School, and March to May 1918 with Co. B, 1st U. S. Engrs.; June to Sept. 1918 Instructor, Camp Humphreys, Va., with 3rd Training Regt.; Sept. to Dec. 1918 Instructor, Camp Forrest, Ga., commanding 17th Prov. Recruit Co.: Jan. 1919 to Oct. 1922 Engr., National Board of Fire Underwriters investigating conditions, preparing reports and making recommendations for improvement in connection with water-supply systems, fire departments, fire-alarm systems and structural conditions of cities of the United States having a population of over 20 000: Oct. 1922 to date Engr., Indiana Inspection Bureau, on similar work in that State. (Active practice 6.3 years: Res. Ch. 5.8). Refers to C. T. Bissell, G. W. Booth, R. C. Dennett, R. Fletcher, C. Goldsmith, C. A. Holden, S. F. Newkirk, Jr.

YAKE, WILLIAM DANIEL—City Eng. Dept., Spokane, Wash.—(Age 38. Born Oscoda, Mich.)—Sept. to Nov. 1905 Rodman, and May to Dec. 1906 Instrumentman, Inland 254 Empire Ry.: Dec. 1905 to April 1906 topography on location and Dec. 1908 to March 1909 Instrumentman, Chicago, Milwaukee & St. Paul Ry.: Jan. 1907 to March 1908 (12) Instrumentman, Great Northern Ry.: April to Nov. 1908 and March to Sept. 1909 Instrumentman, City of Spokane: Oct. to Dec. 1909 Transitman, Boise & Western Ry.: Jan. 1910 to date with City of Spokane, as Instrumentman, Asst. Engr., Constr. Engr., Chf. Constr. Engr. and Chf. Field Engr., at present in charge of all construction work and surveys for the city. (Active practice 17.3 years: Res. Ch. 5.1). Refers to A. I. Buchecker, A. D. Butler, C. E. Davis, B. J. Garnett, J. C. Ralston.

ZACK, RAYMOND RAYNOR—306 M. B. A. Bldg., Mason City, Iowa—(Age 36. Born Shelby, Nebr.) (A. B., Fremont, Nebr., Coll.; B. S. in Civ. Eng., Armour Inst. Tech., 1911.)—255 April to Nov. 1911 Instrumentman, Chicago & Western Indiana Ry.: Nov. 1911 to Aug. 1914 prospecting for minerals in Colorado, excavation and tunnel work: Aug. 1914 to (7) June 1917 Draftsman and Constr. Inspector, Beloit Water, Gas & Elec. Co., designed steam turbine foundations, buildings and pumping plant piping system and Inspector on construction: June 1917 to Oct. 1918 Supt. of streets and sewers, City of Beloit, Wis., in charge of street cleaning, street and sewer maintenance and day labor construction: Oct. 1918 to date with Iowa State Highway Comm., until Sept. 1919 as Chf. of survey party, field and drafting room work; and since then Dist. Engr. in full charge of work in twelve counties covering design, construction, maintenance and general administrative work; full supervision of drafting room. (Active practice 11.8 years: Res. Ch. 5.7: Design 1.7). Refers to G. L. Campen, C. C. Coykendall, R. W. Crum, C. H. Currie, H. D. Keerl, A. Marston.

ZUSI, CHARLES JOSEPH—219 Virginia St., Hillside, N. J.—(Age 24. Born Newark, N. J.) (B. S. in C. E., Cooper Union, evening course, 1921.)—April 1914 to Aug. 1917 Gen. 256 Asst. in field and office with Harrison R. Van Duyne, Civ. Engr. and Surveyor, first as Rodman, later Transitman and Draftsman on surveys, stakeouts for building construction, (1) street grading, sewers, landscape work: Aug. 1917 to June 1918 with New Jersey State Highway Dept., first as Rodman, later Transitman, Draftsman on design of highways, and Computer on estimates of quantities and cost: June to Oct. 1918 and Dec. 1918 to April 1919 with Morris R. Sherrerd, Cons. Engr., as Draftsman on design of water-works and Chf. of Party on survey of damsite: Oct. to Dec. 1918 with U. S. Army: April 1919 to Dec. 1922 with North Jersey Dist. Water Supply Comm., as Draftsman on design of Wanaque Water Supply System, including dam, pipe-line, tunnel, relocation of highways and railroads, studies of runoff, capacity, draft, population, consumption, etc., during last year Asst. Engr. on design of details of dam construction and tunnel design: Dec. 1922 to date Engr., Freight Container Bureau, American Ry. Association, on investigation of freight containers to study conditions of packing, shipping and delivery, design of more efficient and economical containers and writing of specifications for adoption by shippers and transportation companies. (Active practice 8.7 years: Res. Ch. 0.1: Design 2.1). Refers to F. A. Baker, H. P. Hammond, N. C. Holdredge, A. H. Pratt, C. T. Schwarze, A. L. Sherman, M. R. Sherrerd, F. W. Tooker.

FOR TRANSFER

FROM THE GRADE OF ASSOCIATE MEMBER

ALLEN, COVINGTON KENNEDY, Assoc. M. Am. Soc. C. E.—2728 Maryland Ave., Baltimore, Md.—(elected June 24, 1914.) (Age 44. Born Pensacola, Fla.)—3 years student, 257 Baltimore Polytechnic Inst.: 1898 to 1903 (4 years) Instrumentman, Electrical Comm.

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of Baltimore, Md., laying electrical conduits, in charge of field party on topographical work; Draftsman on design, records, etc.: 1903 to 1907 (4 years) Transitman, Pennsylvania R. R., surveys, office work, drafting on designs, computations, etc.: 1907 to 1912 (5 years) Asst. Engr. in charge of construction, Sewerage Comm. of Baltimore, on all classes of sanitary and storm water work, construction of substructure and superstructure of pumping station, also of Jones-Falls conduits, large storm water siphons, intake from harbor at pumping station, setting lines and levels for all classes of pumping machinery, reinforced and plain concrete, terra cotta and brick sewers, surveys, preliminary and final, estimates, computations, designs, etc.; supervised work estimated at \$3 000 000: 1912 to 1914 (2 years) Res. Engr. in charge of Falls-Way Viaduct construction (under Engr. of Sewerage Comm.) (ornamental structure, reinforced concrete, 1 700 ft. long, carrying street 75 ft. wide), with retaining walls, arches on tangents and curves; work intersected existing bridges, part of which had to be removed and special designs made for the connections; had charge of construction estimated at \$425 000: 1914 to autumn 1915 with Sewerage Comm.: 1915 to 1917 (2 years) Work Mgr., Gathman Ammunition Co., Texas, Md., on erection of buildings and installation of machinery for making time fuse, and finally operation of the plant, involving employing labor, purchasing and installing equipment, organization of departments, etc. (estimated cost of construction and machinery \$300 000, and of operation \$400 000): 1917 to 1921 (4 years) Plant Engr., Baltimore Dry Docks & Ship Building Co., on construction of piers, wharves, docks, shipyard buildings, etc.; purchase and installation of machinery, furnaces, brass foundry and gear equipment, and general maintenance of plant and equipment covering fabricating and steel machinery, power plants, shops, brass foundry, also general design work (estimated cost of work constructed, new and repairs, \$1 500 000): 1921 to date (1% years) with Baltimore City Water Dept., Loch Raven, Md., as Res. Engr. in charge of improvements on Gunpowder River; supervising cutting of timber, raising of Loch Raven Dam, construction of balancing reservoir, also roads and bridges, including Dulaney Valley Road, grading, concrete culverts, etc. (3 miles long), and Paper Mill, Warren, Phoenix and Ashland Bridges, with approaches (bridges steel, roads concrete); reconstruction of about 6 miles of roads, consisting of reconstructed base course and bituminous macadam, also general supervision of the reservation; supervised work estimated at \$1 800 000. (Active practice 23.6 years: Res. Ch. 19.6: Design 18.6). Refers to A. E. Christhilf, A. H. Hartman, W. A. Megraw, H. G. Perring, G. J. Regardt, E. B. Whitman.

BUNDY, OSCAR HAROLD, Assoc. M. AM. Soc. C. E.—50 Market St., Poughkeepsie, N. Y.—(elected July 2, 1913.) (Age 37. Born Elmira, N. Y.)—1907 completed Extension 258 Course in Steam Eng., Pratt Inst., and Surveying and Structures courses, Brooklyn Polytechnic Inst.: 1910 completed R. R. Surveys and Reinforced Concrete courses, Drexel (3) Inst., Philadelphia, Pa.: July 1903 to Dec. 1905 Cadet Engr., Elmira Water, Light & R. R. Co., Gas, Elec. and R. R. Depts., drafting, testing, records, surveys, construction: Dec. 1905 to July 1907 Draftsman, Westinghouse, Church, Kerr & Co., estimating and drafting in connection with Ohio River & Belair Elec. Ry., Uncas Power Co., etc.: July 1907 to July 1911 with Dodge, Day & Zimmerman, Philadelphia, as follows: July 1907 to Feb. 1908 Field Engr. on Hanover & York Ry. (20 miles), interurban trolley construction; Feb. to June 1908 Asst. Engr. on various preliminary projects; June to Dec. 1908 Engr. and Supt. of Constr. in charge of completion of Warrior Ridge Hydro and Steam Plant, Juniata River, Pa. (3 000 kw.); Dec. 1908 to Aug. 1909 Asst. to Supt. in charge of erection of concrete handling equipment for construction of Gatun Locks, Canal Zone, Panama; Aug. 1909 to July 1910 writing specifications, studies, reports, surveys, in connection with Lewiston & Reedsville Ry., Mongaup Hydro Co., U. S. Light & Heating Co., Cincinnati Beckford Tool Co., Kent Bldg. Co., and Watson Wagon Co.; then Field Engr. in charge of preliminary and location surveys, property and right-of-way surveys, Midland Penn. R. R. (45 miles): July 1911 to April 1914 Chf. Engr., Washington & Old Dominion Ry., in charge of preliminary and location surveys, right-of-way and property surveys, construction and after construction operation of power house, car shops, substations, transmission lines, track, bridges, buildings (90-mile interurban railway): April 1914 to Jan. 1918 Asst. Engr., Special Engrs. Dept., Southern Ry., work included acting as Chf. of Party on track surveys, cost determinations; acting as Pilot Engr. with Interstate Commerce Comm.'s engineers on roadway, track, bridges, buildings and other structures: Jan. 1918 to date Engr., Central Hudson Gas & Elec. Co., in charge of Eng. and

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Constr. Dept., surveys, studies, estimates, etc., for transmission lines, substations, steam and hydro stations, etc. (Active practice 19.5 years: Res. Ch. 10.5: Design 9). Refers to E. J. Beugler, W. T. Chevalier, J. H. Hanna, D. W. Lum, F. B. Maltby, G. A. Noren.

FOSS, JAMES CALVIN, Jr., Assoc. M. AM. Soc. C. E.—South Fork Camp, Groveland, Cal.—(elected Junior April 6, 1909; Assoc. M. Oct. 1, 1912.) (Age 38. Born Loleta, Cal.)
259 (A. B. in Civ. Eng., Leland Stanford, Jr., Univ., 1908.)—May 1908 to Feb. 1909 Asst. County Engr. and Dist. Engr., Maui County, Hawaii, road and concrete bridge work, also
 (13) made preliminary surveys, designs and estimates of Kula Pipe Line, 29 miles domestic water supply: Feb. 1909 to Aug. 1910 Chf. Asst. Engr., Hawaiian Irrigation Co., acting as Field Constr. Engr., Lower Hamakua Ditch, Hawaii (15 miles tunnel, 10 miles open canal): Aug. 1910 to March 1911 Engr. in charge of preliminary surveys, gaugings, estimates and plans, Walhole Water Co., Oahu, Hawaii, also made surveys, plans and estimates of 10-mile mountain extension, Kekaha Ditch, Kauai, Hawaii: March 1911 to April 1913 Chf. Engr., Kahului R. R. Co., Hawaii, Engr. for railroad as Contrs. on Kahului Breakwater; Engr. in full charge, Haiku Extension of the railroad: April 1913 to July 1918 in private practice of engineering and contracting, designs, estimates and construction, highway, bridge, harbor and hydraulic work: July 1918 to Jan. 1921 Senior Asst. Engr., Spreckels (Cal.) Sugar Co., in full charge of all construction, including pumping plants, land leveling, irrigation systems and beet-loading stations: Jan. 1921 to date Res. Engr., South Fork and Adit 5-6 Portals, Hetch Hetchy Water Supply, City and County, San Francisco, hard-rock water tunnel construction. (Active practice 14.6 years: Res. Ch. 14.6: Design 9.7). Refers to N. A. Eckart, C. H. Kluegel, C. D. Marx, M. M. O'Shaughnessy, R. Quinn, J. N. S. Williams.

FOUGNER, HERMANN, Assoc. M. AM. Soc. C. E.—110 East 42d St., New York City—(elected Feb. 1, 1905.) (Age 45. Born Hustad, Norway.) (C. E., Tech. Coll. of Trondhjem, 1896.)—March 1897 to July 1898 Jun. Engr. and Draftsman, Pencoyd Iron Works, Philadelphia, Pa., detailing structural steel and designing roofs, etc.: July to (1) Oct. 1898 Draftsman on structural steel for buildings and bridges, Koken Iron Works, St. Louis, Mo.: Oct. 1898 to Feb. 1900 with American Steel Foundry Co., St. Louis, and Granite City, Ill., as Constr. Engr. and Asst. to Chf. Engr., in charge of design and erection of all structural work, including power house, car shop and repairs, also in charge of design of steel freight cars: spring 1900 (3 months) with Hecla Iron Works, Brooklyn, N. Y., in charge of shop details of 12-story office building: summer 1900 in Europe traveling and studying: Sept. 1900 to Sept. 1905 with Milliken Bros., New York, 1 year in New York in charge of squad, 1901 to 1903 (1½ years) Erection Engr. in charge of Russian Govt. work, Port Arthur, Manchuria, and 1903 to 1905 (2½ years) Chf. Engr. at Johannesburg, South Africa: 1905 to 1918 (nearly 12½ years) with Truscon Steel Co., Youngstown, Ohio, during 1905 traveling making preliminary designs and reporting on engineering conditions in the Southern States; 1906 to 1918 Eng. Representative, in office in New York, designed and had full charge of numerous large buildings and bridges: 1918 to 1919 (1½ years) with Fougnier Concrete Shipbuilding Co., in entire charge of building concrete vessels for U. S. Shipping Board and Standard Oil Co.: 1919 to Sept. 1922 (3 years) Pres., Fougnier Concrete Steel Co., in charge of Company's engineering and other work; also Cons. Engr. for large industrial corporation: Sept. 1922 to date Cons. Engr., reinforced concrete structural steel and industrial plants. (Active practice 25.4 years: Res. Ch. 22.3: Design 9.6). Refers to K. Berle, R. W. Boyd, J. S. Branne, L. C. Dilks, S. F. Holtzman, J. Kahn, H. C. Turner.

GARFIELD, CHESTER ARTHUR, Assoc. M. AM. Soc. C. E.—25 Webster Ave., Bronxville, N. Y.—(elected Feb. 6, 1912.) (Age 42. Born New Bedford, Mass.) (S. B., Lawrence 261 Sci. School, 1904.)—June to Sept. 1904 private work, surveys and street acceptance plans for property owners, Cambridge, Mass.: Sept. 1904 to July 1907 with Massachusetts (1) sets Metropolitan Park Comm., until March 1905 as Rodman, then Instrumentman, and after March 1906 Head of field party on survey for preliminary location for Boston Elev. Ry. in Middlesex Fells Reservation, on construction of part of Furnace Brook Parkway in Quincy (2 miles) and of reservation highway in Blue Hills Reservation (1 mile) and on survey of site and preparation of plans (3 months) for construction of dam, bridge and boat lock at Craddock Bridge, Medford, Mass., for control of Mystic River: July 1907–Nov. 1912 Asst. Engr., Reservoir Dept., New York City Board of Water Supply, at Browns Station, N. Y., until Feb. 1908 on work preliminary to construction, then in charge of monthly and final estimates for payment for Oliver Bridge

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Dam (\$5 000 000), including design of some details in the department: Dec. 1912 to date with Bronx Parkway Comm., New York City, and Bronxville, N. Y., as Field Asst. Engr. in charge of Field Eng. Dept. (after June 1917 Field Div. of Eng. Dept.), had direction, supervision of and responsibility for field and office work on extensive property surveys (over 300 acres), on detail topographical surveys of about 1500 acres, on hydrographical surveys for stream control studies and river regulation, on lines and grades and supervision of structures, including diversion channels for Bronx River at White Plains and North White Plains, trunk sewer changes at White Plains and Williamsbridge, New York City, twelve bridges (spans 20 to 70 ft., total cost about \$450 000), two bridges or under-crossings of 42 ft. span (total cost about \$128 000), paving of parkway drive (average width 40 ft.) and access road including bituminous macadam, and asphalt block and bituminous concrete on concrete base (total cost of paving about \$600 000), and other miscellaneous work, including design of some details in field; also assisting Counsel of Commission in real-estate cases, testifying before various Commissions of Appraisal and investigating work, etc.; from Dec. 1912 to July 1917 reported to Engr. and Secy. and remainder of time to Deputy Chf. Engr. who was Acting Engr. from July 1918 to July 1919 and during which time was also in charge of design under Acting Engr. (Active practice 18.6 years: Res. Ch. 15.2: Design 3.6). Refers to C. E. Davis, C. M. Holland, L. G. Holleran, W. D. Hubbard, J. S. Langthorn, J. R. Rablin, J. F. Sanborn.

HASELWOOD, FRED WILLIS, Assoc. M. Am. Soc. C. E.—Willits, Cal.—(elected Junior Jan. 3, 1907; Assoc. M. Sept. 6, 1910.) (Age 42. Born Milford, Nebr.) (B. S., Kans. 262 State Agri. Coll., 1901.)—April-Dec. 1903 Axeman, Chainman, Topographer and Transitman, Western Pacific R. R.: Jan.-March 1904 stream gauging, Bay Cities Water Co.: (13) April and May 1904 Estimator, Santa Fe R. R., earthwork and timber cribs: June-Aug. 1904 Laborer, standard Consolidated Mining Co., Bodie, Cal.: Dec. 1904-Jan. 1910 with W. P. R. R. as follows: Dec. 1904-Oct. 1905 Transitman and Acting Chf. of Party on location; Nov. 1905-Aug. 1908 Res. Engr. on heavy grading, including wet and dry tunnels, concrete culverts and abutments, timber and steel bridges and track-laying, direct charge 6 miles and partial charge of 35 miles; Aug. 1908 to Jan. 1909 Res. Engr. in charge of yard and terminal construction at Stockton; Jan. 1909 to Jan. 1910 Asst. Engr. in charge of yard and terminal construction at Oakland, Cal., shop, roundhouse, depot, yards and terminal facilities: Feb. 1910-May 1911 in private practice, subdivision, irrigation and concrete design: June-Aug. 1911 Asst. Engr., J. G. White & Co., on water power investigations in connection with valuation of property of Northern Water & Power Co.: Sept.-Dec. 1911 with California Water Power Board investigating water rights and their development: Feb. 1912 to date Asst. Div. Engr., Div. 1, California Highway Comm., in charge (under Div. Engr.) of administration of affairs of division office; direct charge to 1916 of laying out of highways and design of timber and concrete bridges; work involves supervision of location, construction and maintenance of graded, graveled and paved roads, and general office administration. (Active practice 19.3 years: Res. Ch. 13.7: Design 5.3). Refers to A. B. Fletcher, C. D. Marx, W. Meredith, F. G. Somner, T. E. Stanton, Jr., C. B. Wing.

HOLDREDGE, NEIL CUMMINGS, Assoc. M. Am. Soc. C. E.—Haskell, N. J.—(elected Oct. 31, 1911.) (Age 40. Born West Burlington, N. Y.) (B. E., Union Coll. Eng. 263 School, 1905.)—June to Aug. 1905 Draftsman with Post & McCord, New York City, on structural steel buildings: Sept. 1905 to Oct. 1906 Inspector, Transitman and Asst. (1) Engr. on painting and repair of elevated railroads, construction of Canarsie Elev. Ry., surface lines and surveys and design of Brighton Beach Improvement: Nov. 1906 to Nov. 1915 Asst. Engr. and Sec. Engr., New York City Board of Water Supply, as follows: Nov. 1906 to June 1908 in charge of field party and on office work preliminary to construction of cut and cover aqueduct and tunnels on Esopus Div.; June 1908 to July 1911 Asst. to Sec. Engr. on Roundout Pressure Tunnel and Bonticou Grade Tunnels, Sec. 5 and 6, in charge of field office; July 1911 to Oct. 1912 Sec. Engr. in charge of Sec. 5 and 6 (two-thirds of \$6 000 000 contract); after Nov. 1912 Sec. Engr. in charge on City Aqueduct Tunnel, Sec. 1 and later Secs. 1 and 2 (\$3 500 000 contract): Dec. 1915 to July 1918 (except Sept. to Dec. 1917 on leave of absence in Engr. Corps Training Camp at American Univ.) Div. Engr., Bureau of Sewers, Manhattan Borough, in charge of construction and worked on designs of sewers in Middle Div., Manhattan (includes about \$500 000 a year spent in construction of various types of sanitary and storm sewers); also designs for Clarkson St. and 26th St. sewer projects: Aug. to

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Dec. 1918 Superv. Engr., Air Nitrate Corporation, Ancor, Ohio, in charge of layout and minor design for \$5 000 000 nitrate plant: Jan. to June 1919 not on engineering work: July 1919 to date Asst. Engr., Res. Engr. and Asst. Chf. Engr., North Jersey Dist. Water Supply Comm. on Wanaque Project for additional water supply for Newark, N. J., and other municipalities; in charge all preliminary field work and all construction (value of contracts in progress \$2 500 000). (Active practice 17 years: Res. Ch. 15.3: Design 3.3). Refers to J. P. Hogan, E. W. Maloney, A. H. Pratt, R. Ridgway, J. F. Sanborn, M. R. Sherrerd, B. H. Wait.

HUTCHINS, ROLAND ELLIS, Assoc. M. Am. Soc. C. E.—1972 Cowden Ave., Memphis, Tenn.—(elected Junior Nov. 1, 1910; Assoc. M. Jan. 14, 1918.) (Age 37. Born West 264 Acton, Mass.) (Sc. B. in C. E., Brown Univ., 1910)—July—Sept. 1909 Bituminous Concrete Inspector, Rhode Island Board of Public Roads: July to Sept. 1910 detailing,

(10) Pencoyd Plant, American Bridge Co., Philadelphia, Pa.: Sept. 1910 to June 1911 Instructor in drawing, Coll. of Applied Science, State Univ. of Iowa: June to Sept. 1911 Transitman, Morgan Eng. Co., Memphis, Tenn.: Sept. 1911 to June 1913 Instructor in Civ. Eng., Brown Univ., Providence, R. I.: June to Sept. 1912 and June to Sept. 1913 Draftsman, Rhode Island Board of Public Roads: Sept. 1913 to June 1914 Instructor in drawing, Sept. 1914 to June 1915 Instructor in hydraulics, and Sept. 1915 to June 1916 Asst. Prof. of Hydraulics, Coll. of Applied Science, State Univ. of Iowa: June to Sept. 1914 on construction of school house, Northwood, Iowa, Western Constr. Co., Iowa City: July to Sept. 1915 designing, Miami Conservancy Dist., Dayton, Ohio: June 1916 to date Designing Engr., Morgan Eng. Co., drainage and flood protection works; designed Indian Creek Drainage Dist. (45 000 acres, \$350 000), Keystone Drainage Dist. (289 000 acres, estimated cost \$4 000 000) (not constructed), Black Bayou (99 000 acres, \$850 000), Murphy Bayou (45 000 acres, \$350 000) and Grand River (70 000 acres, \$600 000) Drainage Dists., Holmes, Humphreys and Yazoo Drainage Dist. (190 000 acres, estimated cost \$2 850 000); Abilaca (13 000 acres, \$110 000), Potococowa (17 000 acres, \$80 000) and Index Sulphur (112 000 acres, estimated cost \$1 650 000) Drainage Dists.; also numerous redesigns, consultations, investigations and reports. (Active practice 12.3 years: Res. Ch. 9: Design 6.7). Refers to A. L. Dabney, J. A. Harman, L. L. Hidinger, D. W. Mead, N. H. Sayford, S. M. Woodward.

JAHN, NICHOLAS FIRTH, Assoc. M. Am. Soc. C. E.—504 Thompson Bldg., Seattle, Wash.—(elected March 9, 1920.) (Age 36. Born Trenton, N. J.) (C. E., Princeton Univ. 265 1909)—1909 to 1910 Foreman and Estimator for a contractor in Oregon and Washington: 1910 to 1912 member of firm, Jahn Contr. Co., acting as Supt. in charge of con-

(12) struction and purchased materials; contracts include bridge piers, Lewis River, with State of Washington (\$50 000); intake and distributing systems of water mains, Gladstone (\$60 000) and Portland (\$350 000), Ore., and Seattle, Wash. (\$300 000); trunk and lateral sewer systems, Portland (\$75 000) and Salem, Ore. (\$75 000), and Everett, Wash. (\$190 000): 1913 to 1917 in charge of following contracts: Municipal R. R., Seattle, 8½ miles of open track, 1½ miles paved track construction, including girder crossings, crossovers, etc. (\$200 000); West Seattle Sluicing Contract, reconstruction of arterial highway by cutting down roadway by hydraulic sluicing and steam shovel excavation, building of 2 500 lin. ft. of sheet pile bulkhead driven by pile-driver using water jet (\$125 000); sea-wall contract, Seattle, improvement of 1 200 lin. ft. of water front by building sea walls at street terminals (14 ft. wide at base, 20½ ft. high, resting on piles), ripraping between streets, filling behind walls, laying sewers and paving with brick blocks on 8-in. concrete base (\$100 000); Seattle Court House Tunnel contract, building reinforced concrete subway entrance to County-City Bldg., and improvement of City Hall Park (\$30 000); 5 miles of Pacific Highway (contract with King County, Wash.) consisting of clearing, grading and paving 20-ft. wide brick roadway on 5-in. concrete base (\$150 000): Aug. 1917 to Dec. 1918 with U. S. Army at Ft. Leavenworth, Kans. (Sept. to Nov. 1917), Washington, D. C. (Dec. 1917 to April 1918), South Baltimore, Md. (April to Aug. 1918), Aberdeen Proving Ground, Md. (Sept. to Dec. 1918); graduated as Proof Officer of Artillery and Ammunition, Ordnance Eng. School: spring 1919 to date member of firm and Mgr., Jahn & Bressi, Gen. Contrs., Seattle, Wash., most important contracts include 32d Ave. N. W., paving, etc. (contract \$66 000); King St. et al., filling in part of old tideland property, water mains, paving, retaining wall, etc. (\$193 000); W. 60 and 61st St. et al.; 15 miles water supply mains (cast-iron) (\$268 000); Dexter Ave. grading, sub-grading, water mains, concrete paving and asphaltic (\$138 000); 4th Ave. South by trestle bridge, filling, brick paving, etc.

FOR TRANSFER

(\$119 000); designed and built private water system (\$20 000) for A. Hambach, at Angle Lake, Wash., consisting of pumping unit, storage tank and distributing system; Elliott Ave. hydraulic fill pumped from Puget Sound, etc. (\$190 000); Nickerson St., earthwork, sewers, paving, etc. (\$87 000); Rainier Ave., construction approx. 6 miles brick highway with sewers, water mains, etc. (\$515 000); First Ave. et al. (nearly completed), repaving and retracking from Pine to Atlantic St., retaining wall (600 ft. long, 50 ft. high), 14 000 lin. ft. of track (127 lb. girder rail) with twelve special work layouts at various street intersections and railroad crossings (paving consists of brick blocks laid on concrete base) (\$650 000). (Active practice 13.5 years: Res. Ch. 11.7: Design 4.1). Refers to T. H. Carver, A. H. Dimock, J. A. Jackson, J. Jacobs, W. C. Morse, O. A. Piper.

LIVINGSTON, RAY CLIFFORD, Assoc. M. AM. Soc. C. E.—881 Mills Bldg., San Francisco, Cal.—(elected March 7, 1921.) (Age 38. Born Mexico, Mo.) (B. S., Univ. of Ill., 266 1910.)—May to Sept. 1907 Draftsman, Delaware, Lackawanna & Western R. R., Hoboken, N. J.: May to Aug. 1908 Draftsman, Missouri Pacific Ry., St. Louis, Mo.: (13) May to Aug. 1909 Topographic Draftsman, East Side Levee and San. Dist., East St. Louis, Ill.: May to Dec. 1910 Draftsman, St. Louis South Western Ry., Tyler, Tex., in Chf. Engr.'s office: Dec. 1910 to March 1911 Designer, American Brake Co., St. Louis, locomotive air brakes: March to May 1911 Structural Detailer with Purdy & Henderson, Chicago, Column Detailer: June 1911 to June 1912 Estimator and Instrumentman, location, Rock Island Lines: June 1912 to Sept. 1913 in charge of maintenance party, Chicago, Milwaukee & St. Paul Ry., Minneapolis, Minn., spiraling curves, yard layouts and designs: Sept. 1913 to Nov. 1914 Jun. Engr., City of Minneapolis; work involving plans for building additional filters and coagulation basins for filtration plant, also construction of same: Nov. 1914 to Aug. 1916 Asst. Engr., M. & St. L. R. R., Minneapolis, valuation maps and profiles for Federal valuation work: Aug. 1916 to June 1922 (except 3 months 1st Lieut., Engrs., U. S. Army) Highway Engr., Hennepin County, Minn., in responsible charge of design and construction of highways and bridges around Minneapolis: June 1922 to date Highway Engr., U. S. Bureau of Public Roads, Regional Office, San Francisco, Cal., forest road construction. (Active practice 12.6 years: Res. Ch. 10.6: Design 5.2). Refers to J. W. Ball, W. M. Black, E. I. Cantine, W. R. Goodwin, T. N. Jacob, J. A. Jensen, W. N. Jones.

MILLS, THORNTON ALLEN, Assoc. M. AM. Soc. C. E.—Bureau of Public Works, Manila, Philippine Islands—(elected July 6, 1920.) (Age 33. Born Providence, R. I.)—1909 267 to 1910 student, Union Univ.: June 1912 to Feb. 1913 Instrumentman and Draftsman for A. P. MacCallum, Patagonia, Ariz., mine surveys: Feb. to April 1913 Instrumentman for (1) County Surveyor, El Paso, Tex.: April to Sept. 1913 Asst. to Stope Engr., Ray (Ariz.) Consolidated Copper Co., underground checking and sampling: Sept. 1913 to June 1914 Instrumentman and Draftsman for State Engr., Phoenix, Ariz., highway plans and surveys: June 1914 to Sept. 1917 in private practice as Civ. Engr. at Montague, Mich., farm and building surveys and structural design and superintendence of minor concrete construction, including layout of ways and track for Montague Iron Works shipbuilding plant (not constructed): Sept. 1917 to May 1918 Designer, Bridge Dept., Michigan State Highway Dept., Lansing, Mich., on steel and concrete bridges and culverts: May to Nov. 1918 Asst. Bridge Engr., Virginia State Highway Comm., Richmond, Va., design of steel and concrete bridges: Dec. 1918 to Oct. 1919 Asst. Engr., U. S. Reclamation Service, Malta, Mont., design and estimates of dams, etc., and investigations of water rights and resources: Oct. 1919 to April 1920 Asst. Bridge Engr., State Highway Comm., Helena, Mont., design of steel and concrete bridges and supervision of bridge drafting room: July to Sept. 1920 Senior Engr., Ford, Bacon & Davis, San Francisco, Cal., valuation report of Standard Oil Properties of California: Sept. 1920 to Feb. 1921 Designing Engr., Madera (Cal.) Irrigation Dist., design of irrigation structures: March 1921 to date Civ. Engr., Bureau of Public Works, Manila, Philippine Islands, designing \$5 000 000 reinforced concrete pier, also several smaller structures, including suspension bridge, steel scows, etc.: Licensed Civ. Engr. in Philippine Islands. (Active practice 10.3 years: Res. Ch. 7.7: Design 6.8). Refers to E. L. Cope, E. L. Driggs, W. J. Grodske, G. T. Macnab, T. H. Means, G. E. Stratton, L. C. Willey.

MOTTIER, CHARLES HELVETIUS, Assoc. M. AM. Soc. C. E.—1403 East 69th Pl., Chicago, Ill.—(elected June 18, 1918.) (Age 34. Born Gibson City, Ill.) (B. S. in C. E., Univ. 268 of Ill., 1910.)—June 1910 to Jan. 1911 Instrumentman and Inspector on track elevation, C. B. & Q. R. R. Co.: Jan. 1911 to date with I. C. R. R., as follows: Jan. to Feb. (8) 1911 Draftsman; Feb. 1911 to June 1912 Masonry Inspector, on reinforced concrete

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warehouse, and (April 1911-June 1912) in field charge of construction of eleven concrete bridges; July-Dec. 1912 Masonry Foreman in charge of (concrete) construction of eight bridges; Jan.-March 1913 Inspector on bridge investigations; April 1913-Jan. 1916 Draftsman, Designer and Estimator in Bridge Dept.; Feb. 1916 to Jan. 1917 Asst. Engr. on terminal design; Jan. to Oct. 1917 Asst. Engr. in charge of recommendations for permanent bridge renewals; Oct. 1917 to Sept. 1918 Asst. Engr. in office of Chf. Engr., on terminal designs and preparation of Lake Front (Chicago) Ordinance; Sept. 1918 to Feb. 1920 Asst. Engr. (reporting to Chf. Engr.) on criticism of plans, negotiations with outside parties, preparation of ordinances, study of economic justification for proposed projects, etc.; since Feb. 1920 Office Engr. on Chicago Terminal Improvement (approx. \$80 000 000), in charge (under Chf. Engr.) of design (exclusive of mechanical and electrical work); also has charge of field inspection of construction work. (Active practice 12.6 years: Res. Ch. 8.2: Design 8.2). Refers to W. G. Arn, D. J. Brumley, T. L. Condron, E. T. Howson, M. Johnson, E. J. Noonan, A. N. Talbot.

PANTON, EDWARD CULLODEN, Assoc. M. AM. Soc. C. E.—Care, U. S. Reclamation Service, Emmett, Idaho—(elected Jan. 17, 1921.) (Age 33. Born Spokane, Wash.)
269 (C. E., Cornell Univ., 1914.)—Sept. 1905 to Sept. 1909 Rodman, Chainman, Instrumentman and Draftsman on railway location and construction and general engineering work,
(12) L. M. Rice & Co., Seattle, Wash., Canadian Pacific R. R., Chicago, Milwaukee & Puget Sound Ry., etc.: Feb. to Sept. 1912 Res. Engr. in charge of construction, Canadian Northern Ry., Ontario: Oct. 1912 to June 1914 Asst. Engr., New York, Auburn & Lansing Ry., Ithaca, N. Y., in charge of design and construction, railway betterments, and at Cornell Univ.: July 1914 to Aug. 1915 Asst. Engr., Vancouver Sewerage Board, on preliminary investigations for sewerage and drainage work: Sept. 1915 to Aug. 1916 in private practice, Los Angeles, Cal., designing structural work for architects: Aug. 1916 to Sept. 1917 Chf. of Party and Asst. Engr., U. S. Reclamation Service, Phoenix, Ariz., in charge of construction in field on Roosevelt Dam; Office Engr., Salt River Project, in charge of designs: Sept. 1917 to July 1918 Chf. Engr., Navajo County Highway Comm., Holbrook, Ariz., in charge of location, design and construction of roads and bridges: Aug. 1918 to date with U. S. Reclamation Service, 1 year as Asst. Engr., then Engr., at King Hill, Idaho, designing irrigation structures and construction plant (6 months), in direct charge (3½ years) of construction, concrete flumes, siphons and other irrigation structures aggregating over \$700 000; designed all plant and some of structures for this work; since July 1922 Engr., acting as Supt., Black Canyon Dam, Emmett, Idaho, building \$1 500 000 dam and power plant, designing construction plant. (Active practice 14.7 years: Res. Ch. 8.6: Design 5.1). Refers to A. P. Davis, J. Munn, A. M. Rawn, J. L. Savage, O. J. Schieber, W. Ward, F. E. Weymouth.

RANDELL, RALPH REGINALD, Assoc. M. AM. Soc. C. E.—Federal Power Comm., Interior Dept. Bldg., Washington, D. C.—(elected Junior Oct. 1, 1912; Assoc. M. March 270 13. 1917.) (Age 32. Born Seattle, Wash.) (B. S. in C. E., Univ. of Wash., 1911.)—June to Sept. 1910 Rodman, U. S. Geological Survey: June 1911 to April 1912 Jun.
(5) Topographer, U. S. Geological Survey, in charge of small parties: April 1912 to Feb. 1914 Jun. Engr., U. S. Geological Survey, Water Resources Branch, on stream flow investigations, design, location, construction, operation, and maintenance of gauging stations and appurtenances, surveying, computation and compilation of data, and consideration and disposal of matters during absence of Dist. Engr.: Feb. 1914 to Aug. 1920 with Forest Service, U. S. Dept. of Agriculture, as follows: Feb. 1914 to July 1915 Jun. Engr., and July 1915 to Oct. 1916 Asst. Engr. in office of Chf. Engr.; Executive Asst. in administration of water-power and engineering activities, work including critical examination of engineering reports, field examination and report on a Virginia hydro-electric development (2 700 h.p.), location and design of steel highway bridge (48-ft. span, cost \$1 200) in Virginia; field examination and report on final location of several miles of mountain highway in Arkansas, including relocation at several critical points; field examination and report with design and estimate of cost (about \$4 000) for about 2 200 ft. of wooden highway trestling in Florida; examination and redesign of 200-ft. highway suspension bridge of which the stiffening trusses had failed; field examination and report on an Oklahoma reservoir project, involving consideration of several possible methods of development, including preparation of large scale topographic map of 1½ sq. miles of mountainous country, detailed topographic maps of alternative dam sites, design of suitable dams, and estimates of cost (about \$32 000 to about \$175 000) for eight alternative developments; also one of four Prin.

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Assts. on preparation of Senate Doc. No. 316, 64th Cong., 1st Sess., Report on Electric Power Development in the United States: Oct. 1916 to March 1917 Asst. Dist. Engr., Dist. 5, on similar work and assisting Dist. Engr.; March to April 1917 Dist. Engr., Dist. 3 (Arizona and New Mexico), on similar work; April to June 1917 Asst. Engr., in office of Chf. Engr., on similar work and preparation of atlas of water power of world, for use of United States delegation at European peace table; June 1917 to Nov. 1918 Asst. Engr. in charge of Water Power, Dist. 6 (Oregon, Washington and Alaska), including investigation and report, with administrative recommendations, on applications for water power rights on National Forests of the District, and value for water power of United States lands applied for under land laws; also investigation, design, estimate of cost (about \$55 000) and report with administrative recommendations on drainage project in Oregon; Nov. 1918 to Aug. 1920 Asst. Engr. in Chg. of water power, in charge (subject to general supervision of Chf. Engr.) of all water power activities on National Forests, included critical review of Dist. Engineers' reports and administrative handling of the cases; Aug. 1920 to date Asst. Engr. with Federal Power Comm., on work similar to that done from Nov. 1918 to Aug. 1920. (Active practice 11.8 years: Res. Ch. 11.3: Design 1). Refers to E. C. Bebb, P. H. Dater, F. H. Fowler, A. H. Fuller, T. G. Gerdine, N. C. Grover, J. C. Hoyt, B. E. Jones, W. A. Lamb, M. O. Leighton, O. C. Merrill.

TALLMADGE, ALVAN BRASEE, Assoc. M. AM. Soc. C. E.—301 Gugle Bldg., Columbus, Ohio—(elected June 6, 1921.) (Age 30. Born Washington, D. C.) (B. S. in C. E., 1914, and C. E., 1921, Purdue Univ.)—July to Aug. of years 1912 and 1913 Rodman and Inspector, Pennsylvania R. R. Lines West of Pittsburgh, on harbor improvement, (9) construction of ore docks, and track elevation: June to Nov. 1914 Road Demonstrator and Salesman, Lime Pulver Dept., Jeffrey Mfg. Co., Columbus, Ohio: Nov. 1914 to July 1915 Special Apprentice in foundry, Buckeye Steel Castings Co., Columbus: Aug. 1915 to May 1916 Engr. of Constr., D. W. McGrath & Sons, Gen. Contrs., on improved sewage-treatment plant for city of Columbus: May 1916 to Aug. 1917 designing engineering on reinforced concrete and steel buildings for J. J. Morgan, Cons. Engr., Columbus: Aug. 1917 to June 1919 with U. S. Army as 1st Lieut., E. O. R. C., candidate for advanced commission and Instructor, 2d Officers' Training Camp, Ft. Benjamin Harrison, Ind.; Nov. 1917 commissioned Capt., Field Artillery, with 90th Div.; at School of Fire for Field Artillery, 2 months' course; with 165th F. A. Brigade School of Fire, La Courneau, France; Staff Capt., 343d F. A., 1 year in France and with Army of Occupation: Aug. 1919 to date Engr., reinforced concrete and structural steel buildings, design and superintendence, J. J. Morgan Co., Cons. Engrs., Columbus: since April 1920 Asst. Mgr. (Active practice 8.7 years: Res. Ch. 7.3: Design 4.7). Refers to E. G. Bradbury, P. Burgess, C. B. Cornell, F. W. Jennings, A. Richards, G. F. Schlesinger, R. B. Wiley.

UNDERWOOD, HARRISON AUBREY, Assoc. M. AM. Soc. C. E.—912 Commercial National Bank Bldg., Raleigh, N. C.—(elected Junior Jan. 17, 1916; Assoc. M. Oct. 11, 1920.) 272 (Age 33. Born Knoxville, Tenn.)—1905 to 1907 special student in Civ. Eng., Trinity Coll., Durham, N. C.: summer 1905 Asst. Erecting Engr. on construction of U. S. Post Office Bldg., Durham: summer 1906 Engr. in charge of grading on Virginian R. R. for J. B. Dickson & Co., Contrs.: 1907 to 1917 (8½ years) with Christian Constr. Co., Durham (except Jan. 1913 to June 1914 on leave of absence), until Jan. 1913 as Erecting Engr. in charge of work involving contracts for large residences, academic and commercial buildings, stations, terminal improvements (aggregate approx. \$1 000 000); from June 1914 to Feb. 1917 Estimating Engr. on construction, and in charge of construction including Seaboard Ry. shop facilities, Portsmouth, Va., Durham Water-Works improvements, buildings only, and several commercial buildings: Jan. to June 1913 Highway Engr. in charge of location, construction and bridge design, Granville County, N. C.: June 1913 to June 1914 Erecting Engr. in charge of installation of water facilities, Western Div., Norfolk-Southern Ry., covering location and erection ten water stations, tanks, pipe-lines and pumping stations: Feb. 1917 to June 1919 Structural Engr., Raleigh (N. C.) Eng. Co., in charge of design and construction, including concrete sea wall and completing drawbridge construction, N.-S. Ry., Beaufort, N. C., redesign and construction of concrete bridge over Contentea River, Ayden, N. C.: June 1919 to March 1921 Engr., North Carolina Bldg. Comm., Raleigh, in charge of all State building construction (aggregate \$2 000 000), checking drawings, writing specifications, making estimates an approx. \$1 000 000 worth of additional work: March 1921 to date State

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Engr. of Bldgs. for North Carolina Joint Bldg. Comm., Raleigh, in charge of building design, specifications and construction (aggregate \$3 500 000), making preliminary designs and estimates on approx. \$5 000 000 worth of additional work. (Active practice 15.9 years: Res. Ch. 10.7: Design 5.2). Refers to W. S. Fallis, H. V. Joslin, C. M. Lambe, C. L. Mann, H. Tucker.

WOODRUFF, GLENN BARTON, Assoc. M. AM. Soc. C. E.—Care, L. V. R. R., Bethlehem, Pa.—(elected Junior Dec. 3, 1913; Assoc. M. June 23, 1916.) (Age 33. Born Little 273 Meadows, Pa.) (C. E., Cornell Univ., 1910.)—July to Sept. 1908 Asst. on construction, McHarg Barton Co.: July 1910 to June 1911 Draftsman, American Bridge Co., Edge (4) Moor, Del.: June 1911 to July 1912 Draftsman and Surveyor, Ohio Fuel Supply Co., nearly 4 months in charge of field party on pipe-line surveys: July 1912 to Feb. 1913 Draftsman, Bridge Dept., Northern Pacific Ry., on design and details of structures: Feb. 1913 to May 1917 Bridge Designer, Lehigh Valley R. R., on design of main line bridges, renewals, Wilkes-Barre to Buffalo, turntables, engine houses, etc., design of steelwork, Piers 8, N. R., and 44, E. R., New York City, and steelwork, Buffalo Freight Terminal: May to Sept. 1917 Designer, reinforced concrete mine and mill structures, Chile Exploration Co.: Sept. 1917 to Feb. 1919 1st Lieut., 32d Engrs., U. S. Army, 6 months Asst. Engr., Supply Officer, Base Sec. No. 2, A. E. F.: March to July 1919 Designer of movable bridges, Southern Pacific Co.: July 1919 to date Asst. to Bridge Engr., L. V. R. R., on design of bridges, steelwork, Claremont Terminal, etc. (Active practice 12.6 years: Res. Ch. 9.2: Design 8.9). Refers to F. O. Dufour, C. R. Harding, D. A. Keefe, C. H. Mercer, F. E. Schall, F. C. Stehle.

WYCKOFF, CHARLES RAPELYE, Assoc. M. AM. Soc. C. E.—150 Nassau St., New York City—(elected Junior May 5, 1903; Assoc. M. Sept. 5, 1911.) (Age 43. Born Brooklyn, 274 N. Y.) (B. S. in Civ. Eng., Brooklyn Pol. Inst., 1899; C. E. and A. M., Columbia Univ., 1902.)—June to Sept. 1902 Instructor in Summer School of Surveying, and Oct. 1902 to (1) June 1903 Asst. in Civ. Eng., Columbia Univ.: July to Sept. 1903 Rodman, New York Central & Hudson River R. R.: Oct. 1903 to June 1904 Instructor in Civ. Eng., Cornell Univ.: July 1904 to April 1905 Detailer and Draftsman, American Bridge Co., New York City: April 1905 to May 1906 Chf. Draftsman, Springdale Association, on railroad surveys, location and estimates: June 1906 to March 1910 Asst. Engr., Board of Water Supply, New York City, in Southern Aqueduct Dept. (except Feb. to June 1909 in office of Chf. Engr.) on surveys, studies, design and contract drawings: April 1910 to Feb. 1912 Asst. to Sec. Engr., and March to Oct. 1912 Sec. Engr., Catskill Aqueduct, White Plains Div.: Nov. 1912 to Jan. 1918 in private practice of Civ. Eng., Bldg. and Real Estate: Feb. 1918 to June 1920 Prin. Asst. Engr. for George A. Johnson and Harold C. Stevens, Cons. Engrs.: July 1920-1922 member of firm, George A. Johnson Co., Cons. Engrs., water supply, purification, sewerage, sewage disposal, refuse disposal, etc. (Active practice 20.6 years: Res. Ch. 13.6: Design 8.2). Refers to W. H. Burr, C. Hansel, G. A. Johnson, E. B. Lovell, T. Merriman, H. C. Stevens, G. L. Watson, F. E. Winsor.

FROM THE GRADE OF JUNIOR

FORBES, THOMAS AUSTIN, JUN. AM. Soc. C. E.—Winfield, Tenn.—(elected Oct. 11, 1920.) (Age 28. Born Apollo, Pa.) (C. E., Lafayette Coll., Easton, Pa., 1920.)—June to Aug. 275 1913 Chairman with Albert Smith, C. E. and M. E., Saltsburg, Pa.: July to Sept. 1914 Rodman, Cochran Coal Co., Salina, Pa.: July to Oct. 1915 Timekeeper, acted as Fore (10)man in charge, and June to Aug. 1917 Oiling Inspector, Pennsylvania State Highway Dept.: July to Aug. 1918 assembling electrical apparatus in electric locomotives, Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa.: April 1918 to July 1919 with U. S. Army, with 49th Co., 20th Engrs., on road, bridge and mill construction, after May 1918 with A. E. F.: June 1920 to Jan. 1922 with Pennsylvania State Highway Dept. as Inspector, reinforced concrete pavement, and Chf. Inspector, 6 miles reinforced concrete pavement, concrete culverts and 60-ft. reinforced concrete arch: Feb.-June 1922 Sales Engr., Citizens Motor Car Co. (Packard), on investigation of transportation problems, costs of installation, etc., truck equipment: July to Sept. 1922 Statistician, Port of New York Authority, investigation of traffic in and out of the Port: Sept. 1922 to date with Black, McKinney & Stewart, Engrs., Washington, D. C., as Asst. to Location Engr. on 22 miles of railroad for Jellico Creek Co., Winfield, Tenn.; Res. Engr., construction, Jellico Creek R. R. Co. (Active practice 4.3 years: Res. Ch. 2.8). Refers to L. Perry, L. M. Pill, A. Smith, J. Stewart, H. F. Wilson, Jr.

FOR TRANSFER

FOSTER, JAMES APKER, JUN. AM. SOC. C. E.—101 Ayers Ave., Peoria, Ill.—(elected May 12, 1919.) (Age 26. Born Winona, Minn.) (C. E., Princeton Univ., 1918.)—Jan. 276 to May 1919 Stadia Instrumentman, Knoxville Power Co., Alcoa, Tenn.: June 1919 to date Asst. Highway Engr., State of Illinois, Div. of Highways, Res. Engr. in charge of (8) concrete pavement sections, including grading, culvert and bridge work; during winters on office work, designing culverts and paving sections. (Active practice 4 years: Res. Ch. 2.1: Design 1). Refers to L. M. Arms, G. F. Burch, F. H. Constant, A. H. Hunter, S. M. Russell, H. A. Van Alstyne.

FRIEDENBERG, BENJAMIN, JUN. AM. SOC. C. E.—86 Amboy St., Brooklyn, N. Y.—(elected July 11, 1921.) (Age 27. Born New York City.) (C. E., Cornell Univ., 277 1917.)—July to Sept. 1916 Jun. Asst. Engr., Public Service Comm., New York; Inspector, Instrumentman with office work, drafting and computations on East River

(1) Tunnel at South Ferry (7th Ave. Subway): May 1917 to Oct. 1922 with U. S. Coast and Geodetic Survey as follows: May to Dec. 1917 Deck Officer in charge of topographic party, Stephen's Passage and Lynn Canal, S. E. Alaska, on S. S. *Roscoe*, triangulation computations, platting wire drag sheets, topographic drafting, reports, Washington, D. C. (Nov. 1917-Jan. 1918); Jan. 1918 to Sept. 1919 Aid in charge of topographic party, Virgin Islands (Feb. 1918-June 1919), in charge of triangulation party at various times; then on wire drag work, Coast of Maine, 2d Officer in charge; Sept. 1919 to June 1921 Jun. Hydrographic and Geodetic Engr., from Jan.-March 1920 wire drag and triangulation, Lake Washington and Lake Union; March-Oct. 1920 in charge of launch, wire drag, Stephen's Passage, on S. S. *Explorer* as 3d Officer, Seattle, Wash.; Oct-Dec. 1920 drafting, design, computations; Feb.-June 1921 in Philippine Islands in charge of topographic, triangulation and hydrographic parties, on S. S. *Marinduque* and *Pathfinder* as Navigational and Watch Officer; June 1921 to Oct. 1922 Hydrographic and Geodetic Engr. in Philippine Islands, in charge of topographic party, design of small boats, drafting, computations least squares, accounts, reports, navigation; on S. S. *Marinduque* with rank of Lieut., U. S. C. & G. S. (Active practice 5.6 years: Res. Ch. 4.6: Design 0.6). Refers to W. Bowie, L. O. Colbert, R. L. Faris, C. R. Hulsart, N. H. Heck, W. E. Parker, P. C. Whitney.

HARDAWAY, BENJAMIN HURT, Jr., JUN. AM. SOC. C. E.—R. F. D. No. 1, Winston-Salem, N. C.—(elected Sept. 12, 1916.) (Age 31. Born Tuscaloosa, Ala.) (B. S. in C. E., Va. 278 Mil. Inst., 1913.)—Summers prior to graduation on water-power surveys and on construction, Hardaway Contr. Co., last year included design of steel bridge: autumn 1913 (10) to May 1917 with Hardaway Contr. Co., as follows: autumn 1913 to spring 1914 Res. Engr. on Lock and Dam No. 17, Black Warrior River, U. S. Govt. Engrs. (spillways 1100 ft. long and 63 ft. high, 300 000 cu. yd. of concrete), had charge of contractors' layout of plant and equipment; spring to winter 1914 Res. Engr. on dam (200 000 cu. yd. of concrete) across Catawba River, near Catawba, N. C., for Southern Power Co. (plant developed about 30 000 h. p.); had charge of layout work of plant and equipment for contractor, erection of crusher and mixer plant, coffer dams and track layout; winter 1914 to autumn 1915 Res. Engr. and Asst. Supt. on reinforced concrete bridge with cut stone facings across Rock Creek, for Dist. of Columbia, had charge of layout work for contractor; design of plant, forms and falsework; Nov. 1915 to July 1916 at Badin, N. C., as Res. Engr. in charge of construction on dam (210 ft. high, 1300 ft. long, 640 000 cu. yd. of concrete, developed approx. 125 000 h. p.) and power-house for American Aluminum Co.; had charge of construction and layout of contractor's plant, including two steel bridges on concrete piers across Yadkin River and about 15 miles of railroad, etc.; July 1916 to May 1917 Supt. on Bridgewater (N. C.) Development for Western-Carolina Power Co., spillway (125 ft. high), power-house, etc. (approx. 150 000 cu. yd. of concrete), 20-ft. tunnel and penstocks approx. 1000 ft. long, three semi-hydraulic filled dams: May 1917 to Feb. 1919 with U. S. Army, from end of first year camp to Jan. 1918 as Capt. of Inf., then Maj., 326th, 325th and 90th Inf.: Feb. to May 1919 on design of industrial plant (cost approx. \$100 000) for B. H. Hardaway, Columbus, Ga., including figuring of stresses and strains and purchase and placing of machinery: May 1919 to date Supt., Hardaway Contr. Co., until Sept. 1919 on construction of power-house for E. & P. Mills, at Columbus, including building of reinforced concrete substructure, brick superstructure, four river foundations and installation of five generators; then (about 1½ years) on construction of reinforced concrete dam and power-house (approx. 2500 h. p.) near Fort Gaines, Ga., for Georgia-Alabama Power Co.; from Feb. 1921 to July 1922 on construction of reinforced concrete bridge

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across Chattahoochee River for City of Columbus (built under old steel bridge which had to be raised and traffic maintained), designed all plant, falsework and forms; since July 1922 on construction of North Carolina State Aid Road (concrete paving), Winston-Salem. (Active practice 7.4 years: Res. Ch. 7.4: Design 3.6). Refers to W. C. Campbell, B. M. Hall, B. H. Hardaway, S. T. Jones, Jr., C. A. Mees, W. A. Richards, S. B. Slack.

HEATON, EARL OSCAR, JUN. AM. SOC. C. E.—Covina, Cal.—(elected April 25, 1921.) (Age 26. Born Potsdam, N. Y.) (B. S. in C. E., Clarkson Coll. of Tech., 1918.)—
279 Aug. 1918 to date with U. S. Coast and Geodetic Survey as follows: Aug. 1918 to Aug. 1919 Extra Observer, in charge of sub-party of precise levels (Aug. 1918 to (11) Jan. 1919), and Chf. of Party on check traverse and precise level work in southeastern states (Jan. to Aug. 1919); Aug. to Dec. 1919 Extra Observer and Aid in charge of sub-party on precise traverse work in Louisiana; Dec. 1919 to May 1920 Aid and Jun. Hydrographic and Geodetic Engr. and since May 1920 Jun. Hydrographic and Geodetic Engr., preparing plans and organizing party for precise triangulation work (Dec. 1919 to May 1920) and in charge of sub-party on such work (May to Dec. 1920) in California; preparing plans and organizing party for (Dec. 1920 to May 1921), and Chf. of Party in charge of (May to Dec. 1921), such work in Southwest; on computation work and preparing plans, estimates, etc., for triangulation party in Alaska (Dec. 1921 to April 1922); making observations, computations, etc., on precise triangulation party in Alaska (April to Dec. 1922); since Dec. 1922 on precise base measurement in California. (Active practice 4.5 years: Res. Ch. 2: Design 0.3). Refers to W. Bowie, C. L. Garner, C. V. Hodgson, W. E. Parker, P. C. Whitney.

LUHRS, ALBERT WEIGAND, JUN. AM. SOC. C. E.—7 Grand Ave., North Bergen, N. J.—(elected May 12, 1919.) (Age 25. Born New York City.) (B. S. in Civ. Eng., Cooper 280 Union Night School, 1921.)—July 1916 to July 1917 Rodman, Erie R. R. Co., 4 months in charge of party: July to Aug. 1917 Instrumentman, Eastern Lines, Chicago, Burlington & (1) Quincy R. R., had charge of party on construction at Clyde, Ill.: Aug. 1917 to July 1921 with Erie R. R. Co., until Nov. 1919 as Transitman, M. of W. Dept., in charge of party on New York Div., on surveys, yard layouts, water supply, etc.; made special tests and investigations, estimates, prepared specifications, etc.; after Nov. 1919 Engr. Accountant, New York Region, making examinations into distribution of cost on engineering projects, and important engineering accountings, investigations and reports; supervision of checking contract vouchers; in charge of distribution of road and equipment and operating charges on construction and maintenance work, and making investigations on same; preparing detailed estimates, bills of material, and making inspections and reports on construction projects; made special tests in connection with maintenance-of-way appliances and methods: July 1921 to date Engr., Freight Container Bureau, American Ry. Association, investigation of methods of construction of wooden, fibre and metal boxes, barrels, etc.; conferences with manufacturers, shippers and transportation officials on their use, and supervision and direction of tests of containers, also investigation for particular uses; designs containers based on engineering principles and results of special tests and prepares specifications for manufacture and use, to be incorporated in regulations of Interstate Commerce Comm.: Licensed Prof. Engr. and Land Surveyor, New York State. (Active practice 6.6 years: Res. Ch. 4.2: Design 2.5). Refers to O. F. Barnes, W. M. Dawley, G. Morrison, A. G. Norton, C. T. Schwarze, C. H. Splitstone, J. R. Watkins, T. R. C. Wilson.

ROBINSON, PERCY RALPH, JUN. AM. SOC. C. E.—12 Edmund St., Rochdale, Lancashire, England—(elected Nov. 21, 1921.) (Age 26. Born Rochdale, Lancashire, England.) 281 (B. Sc., Victoria Univ., Manchester, England, 1920.)—July 1915 to Jan. 1918 held a commission in Royal Engrs. (field company), British Army, at home and in France, on (1) construction of roads, bridges, timber buildings, water supply, reinforced concrete construction, etc.: Sept. 1920 to date Engr., Sir William Arrol & Co., Ltd., on construction; Asst. Engr. on latter stages of construction of reinforced concrete wharf (250 ft. long, 30 ft. wide) and whole construction (except excavation) of reinforced concrete tidal basin (piling, framework, deck, etc.) (total length of quayage 200 ft., width of deck 18 ft.); in charge of construction of seven steel buildings and two small steel gantries and a coal-supply gantry (800 ft. long), carrying double line of rails, 180 ft. being covered by a roof 90 ft. from apex to ground; Asst. Engr. on sinking caissons (9 ft. in diameter) under air for Scherzer bridge foundation; Asst. Engr. on widening of masonry dry dock (450 ft. long) by demolishing lower altars and widening entrance 4 ft. each side, including cutting and lengthening of steel gates, and construction of steel pile cofferdam;

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construction of timber wharf (390 ft. long, 14 ft. wide), including demolition of existing wharf, and dredging in front of new wharf. (Active practice 5.8 years: Res. Ch. 3.1). Refers to A. Hunter, G. Moncur. (Applies in accordance with Sec. 1, Art. 1, of the By-Laws.)

SHIREY, LACY LAMBERT, JUN. AM. Soc. C. E.—8409 Curzon Ave., Cincinnati, Ohio—(elected Nov. 9, 1920.) (Age 31. Born Union, W. Va.) (B. S. in C. E., Washington and Lee Univ., 1916; C. E. Cornell Univ., 1920)—Aug. to Nov. 1917 Rodman, Missouri Pacific R. R. Co.: Nov. 1917 to Aug. 1919 and July 1920 to June 1922 Asst. (9) Engr., M. of W. Dept., Cleveland, Cincinnati, Chicago & St. Louis Ry. Co., field and office work in connection with property surveys, and construction of yard and industrial track layouts, turntables, and buildings, and had responsible charge of party on field work in connection with same, and preparation of estimates covering proposed projects and rearrangement of existing facilities: June 1922 to date Designer, Dept. of Bridges and Structures, Office of Chf. Engr., C. C. C. & St. L. Ry. Co., on design of reinforced concrete and steel bridges, most important being complete analysis by elastic theory of arches for new river bridge on main track relocation work, consisting of three 140-ft. and two 100-ft. clear, double track, concrete arch spans, with open spandrel construction; 1 300-ft. steel viaduct, max. height 80 ft.; through girder overhead highway bridge of three spans, and rating of 237-ft. rim bearing, continuous swing span railroad bridge. (Active practice 4.6 years: Res. Ch. 1: Design 0.6). Refers to F. A. Barnes, M. J. Burke, E. S. Humphreys, C. A. Paquette, A. M. Westenhoff.

WATERS, ERNEST GILBERT, JUN. AM. Soc. C. E.—Care, California Oregon Power Co., Medford, Ore.—(elected June 6, 1921.) (Age 30. Born Berkeley, Cal.) (A. B., C. E. 23 Dept., Stanford Univ., 1916.)—June 1916 to Jan. 1917 Asst. Engr. for R. E. Tilden, land, mine, topographic and small irrigation surveys, in charge of party and mapping: (12) Jan. to Aug. 1917 Draftsman and Inspector, Marin Municipal Water Dist., on design and specifications, 120-ft. high concrete dam, Surveyor and Inspector, 8 700-ft. concrete lined tunnel for water: Aug. to Sept. 1917 Jun. Engr., California Debris Comm., computation of flood capacities of channels in Sacramento and San Joaquin River Delta: Sept. 1917 to Aug. 1919 2d Lieut. and 1st Lieut., U. S. Engr. Corps, built 537-ft railroad trestle, organized two companies, Regimental Supply Officer; in France handled supplies, salvage, later 13 trucks road repair work; Battalion Adj't.: Aug. 1919 to Feb. 1920 Constr. Engr., Humble Oil & Refining Co., in charge of construction of two permanent camps of 6 to 8 cottages, bank and mess houses, garage, water and sewer systems, etc., also two small concrete dams: Feb. to March 1920 Draftsman with Fred H. Tibbets, San Francisco, on irrigation structures and layouts: March 1920 to Sept. 1921 Asst. Engr., Shell Oil Co. of California at Martinez Refinery, erection small buildings, machinery foundations, grading for roads and 55 000-bbl. tanks, investigation wharf piling and reclamation of tide lands: Sept. 1921 to March 1922 Jun. Hydr. Engr., Div. of Eng. and Irrigation, Dept. of Public Works, California, co-ordinating and tabulating data taken in connection with California Water Resources Investigation: March 1922 to date Res. Engr., California Oregon Power Co., on Copco Development, extension of power house, installation of another 18 600-h. p. turbine, raising concrete dam 14 ft. installation of thirteen radial gates, new headgates and penstock, including steel section (diameter 14 ft.) through a tunnel. (Active practice 6.5 years: Res. Ch. 4.5: Design 1.1). Refers to C. E. Blee, C. D. Marx, C. Moser, J. F. Partridge, C. B. Wing, H. I. Wood.

The Board of Direction will consider the applications in this list not less than thirty days after the date of its issue.

JOHN H. DUNLAP,
Secretary.